CONVERSATIONS

ON

THE THEORY AND PRACTICE

OF

Physiological Medicine;

OR,

DIALOGUES

BETWEEN A SAVANT AND A YOUNG PHYSICIAN, A DISCIPLE OF

PROFESSOR BROUSSAIS;

CONTAINING

A CONCISE EXPOSITION OF THE NEW MEDICAL DOCTRINE, AND A REFUTATION OF OBJECTIONS BROUGHT FORWARD AGAINST IT.

Translated from the French.

INDOCTI DISCANT, ET AMENT MEMINISSE PERITI.—*TERENCE.*

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PREFACE.

A too general prejudice prevails against books whose professed object is to place the practice of medicine within the reach of the public: Cullen proscribed them when he pronounced such writings to be beneath the sphere of criticism, and his opinion has nearly become that of physicians in general. Notwithstanding this condemnation, these works have not ceased to multiply; and it is certainly true, that the majority of these but too forcibly justify the sentence of the Scotch professor. "*L'Avis au Peuple*" of Tissot, though so well received by individuals out of the profession, has not been elevated to the rank of those works which assure to their authors titles to a high degree of fame. The "Domestic Medicine" of Buchan, that lately possessed an unbounded popularity, became the object of the sneers and sarcasms of medical men; and, indeed, it must be acknowledged that their contempt is justified by the mischief this pernicious work has caused. I

shall pass by numerous writings of a similar tendency; but amongst the many some are to be found, that have a claim to the indulgence of professional men. Notwithstanding the discredit that hangs over works of this description, I believe they are become necessary in the actual state of society; and for the identical reason that the greater part of these are hurtful, it becomes more indispensable to compose such as may be useful. Can the enlightened part of the public be prevented from reading medical books? This habit has been contracted since physicians have written in the vulgar tongue. Every *amateur* of our science has his theory on the causes of diseases, and the effects of remedies; and these prejudices are among the principal obstacles that physicians have to encounter at the bedside of their patients. One, seduced by the trash of Leroy, is gaping after purgatives; another, who has smelt the theory of Brown, is only satisfied in proportion as he finds that there is prescribed for him stimulants and tonics. There are others who perceive in every disorder a suppressed perspiration, and never seek the aid of a professional man, until they have been sweated most unmercifully, by covering themselves

with warm clothing to excess, and at the same time drinking large quantities of heating liquids. Now when ontology and empiricism have proceeded from classical writings into the ordinary language of society, there are a multitude of persons who can only converse with you on elements, or morbific matters, with which they believe themselves in fermentation. They represent their own bodies as the *rendezvous* of five or six evil genii, who visit them together or separately: the gout, rheumatism, nervous disorders, mucus, bile, humours, &c.; and transform the admirable economy of man into a disgusting receptacle of filth. They require from their physician specifics for each of these individual beings, for each of these collections of impurities. If he refuses, their confidence becomes wavering, and very soon after they resign themselves to quacks, who complete the ruin of their health.

Many deserving individuals, discouraged by the divergency in the opinions of authors, have embraced scepticism (of which the most celebrated physicians have lately shown them a pitiable example), and with obstinacy refuse the aid of our art). Assuredly these last do not deserve blame; for what reasonable man,

accustomed to examine whatever is presented to his belief, could give credit to medicine, such as it was professed before the physiological doctrine?

The learned, who compose our schools, have long since been lavish in speech, and by a sort of echo have pompously eulogized the classification of diseases. But when they would behold its practical application at the bedside of their patients, they found it so unsatisfactory, that they were even glad to run to some old moth-eaten book for a receipt.

What can be more disgraceful or degrading to science, and nevertheless what is more common, than to see literary men, learned mathematicians, and enlightened public authorities, place entire confidence in pretending healers, destitute of all claims to the principles of logic, and sometimes even ignorant of the elementary rudiments of grammar, under the ridiculous pretext, that he may possess an excellent receipt, and that they have seen him perform wonderful cures? The more illiterate and clownish a man is, the more he inspires confidence with certain people. That a physician, who has completed prolonged studies, should be possessed of information, is very natural; but that an indi-

vidual, who can hardly speak his native language, should possess the reputation of having a knowledge of all-powerful secrets against most disorders, many will discover in this circumstance alone something marvellous or miraculous; and their confidence is augmented by that which should tend to destroy it.

There are others, who only form an opinion of physicians by their titles, situations, ages, fortune, or the degree of consideration shown them by persons of rank. There are some, who inquire for the physician who has written on the complaint with which they believe themselves afflicted, who treats it in his hospital, or who has the reputation of devoting himself to a particular practice. This last way of forming an opinion of medical men may sometimes produce the happiest results; but it may also deceive; for very frequently a doctor without experience collects with arduous labour, from bad authors, materials, on a disease which he has scarcely observed himself, and usurps a reputation which he is far from deserving. Moreover, the public are not aware, that the field of medical science was so unfruitful before the appearance of the physiological doctrine, that those who most

ardently cultivated the soil, could harvest together little more than brambles and thorns.

Such are, in a great measure, the considerations that have induced the author to publish the following work. His design is not to enable the public to treat themselves in severe disorders, which he has proved in a very positive manner by abstaining from furnishing the *formulæ ;* but he has been desirous of placing them in a situation, to know and reject whatever can prove injurious. His intention was to give a system of *Hygiene* for the preservation of health ; and to demonstrate, that disorders do not dart upon upon us like birds of prey, without the possibility of our foreseeing or averting their impending stroke.

On the other hand, since it seems that persons out of the profession will positively have their medical theory, he believed that he should accomplish something beneficial to society by teaching the predominating theory of the day, and which doubtless will constantly prevail over all others. He considers that the art of healing (that is to say, the details of its application) appertains only to medical men; but he believes that the science

of medicine should, for the general good, be examined and understood by all well-informed persons.

So long as medicine could not be termed a science, it was useless; it was even dangerous to initiate the profane in its mysteries. If they studied it as a science, it was impossible to find other incitements than such as led them to despise it; if they had recourse to it for aid, in their infirmities, they could only derive therefrom means, the application of which was seldom or never free from danger. Still a learned and laborious physician found heretofore, in his experience, and even in his faults, the means of rendering his practice less calamitous; perhaps even to exercise it with a degree of success, although it was impossible he could transmit his talent to his successors. But an individual out of the profession would never have sufficient practice to obtain this result. He may accurately observe what is most conducive to the maintenance of his own health, but it would be impossible for him to treat a disorder; and it must be by chance if he succeed in the administration of remedies.

Now that medicine is become a science, founded on invariable principles, the practice

of it is not less inaccessible to the people; but they can study its theory, because they will understand it; and so they should, for they will reap the advantages of it. I say they will understand it, because it is clear, easy to comprehend, and bears upon itself the seal of truth. I maintain, that it will be highly beneficial to the people to understand it, because they will duly prize it, and repose, in those who profess it, a confidence that they could not accord before. Farther, they will derive from the study of it the advantage of being able to form an opinion of the professional man who offers himself to their assistance; they will know how at first sight to distinguish the physician-physiologist from the ontologist, or the mere slave of *routine*. A better selected choice, proceeding from those distinguished individuals whose worth constitutes a law in private society, and consequently in the social order, will oblige pertinacious and haughty physicians to learn the necessity, wherever they are, of being on a level with the advancement of science; and the obstacles, which now retard the progress of the true medical doctrine, will henceforth disappear before the general impulse.

But it is not solely for the public, or philosophers eager to judge of human acquirements, that this work has been composed. It is equally intended for physicians. If the physiological doctrine is within the reach of all well-educated men, of every liberal mind, it is because it abounds in simplicity and evidence; but it is certain that it will hereafter be still more appreciated by persons exclusively devoted to the art of healing. Here nothing low and trivial is inserted, with the intention of condescending to the ignorant, as is the case in the works that we have pointed out. The author ventures then to hope, that his work will not be confounded with books of this description. By comprising in these *Conversations* the substance of the *Examen des Doctrines Médicales*, of which the public have already expressed their opinion, he proposed to himself to write for all medical men, with the special intention of facilitating the study of the new doctrine to pupils and practitioners who have hitherto neglected to attend to it. His epigraph sufficiently expresses his intentions :

Indocti discant, et ament meminisse periti.

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CONVERSATIONS

ON

THE THEORY AND PRACTICE

OF

PHYSIOLOGICAL MEDICINE.

DIALOGUE I.

ESSENTIAL, BILIOUS, GASTRIC, MUCOUS, PUTRID, MALIGNANT, ATAXIC, AND ADYNAMIC FEVERS.

SAVANT. Ha! are you here, sir? I thought you were long since gone home. Did you not come here last year, about the same time, which was the vacation, to give me your thesis, and announce your approaching departure?

PHYSICIAN. It is true, sir, that I took leave of you; it is no less true that I returned to my province, with the intention of devoting myself to the practice of medicine in my native town; but I was not long there before I changed my plan; and having obtained from my father the needful supplies to pass another year in Paris, I returned to sit on the benches that I now leave to re-visit my friends.

S. How? Who could have induced you thus to delay your establishment? Have you not told me there was reserved for you an heiress, whose fortune would enable you to wait patiently for practice?

P. It is strictly true; and the marriage was on the point of being concluded, when a violent disorder, that was near depriving me of the author of my existence, made me all at once change my resolution.

S. I know my old friend your father has been ill, but he has since enjoyed a continuance of good health. This obstacle, then, has disappeared; have you not met with others on the part of your intended bride? Can it be despair that brings you back to Paris?

P. No, sir; Mademoiselle has even still the patience to wait for me.

S. Explain yourself, I pray, for I have not the faculty to divine.

P. Well, sir, know, that in the short space of time I passed at my father's house, I nearly became his murderer; and under the just apprehension, as I then was, of exposing to hazard a second time a life so precious, or endangering that of my future wife, I adopted the resolution of flying from both, and returning to Paris to learn the art of healing.

S. How, sir? had you spent six years in Paris, without attending to your studies? You have then surreptitiously obtained from your professors a degree not merited, and you prepare yourself without scruple

to abuse the confidence of your fellow citizens! I confess I had quite another opinion of you, especially on looking over your thesis, where I beheld with pleasure the precepts of the best masters, enforced by an erudition well chosen. I was even astonished that your leisure would allow you to explore so many authors, and I admired the justness with which you appreciated the most respectable authorities: for you know, that, for some years, medicine has become my favourite study. You had recourse then to some foreign aid for the composition of your inaugural dissertation?

P. Alas, no! my dear sir, I had read and read, I had turned over day and night the most celebrated classics; I had attended to the bedside of their patients, the clinical professors the most in vogue; in a word, I am the author of my thesis, and this is now the cause of my whole regret; for it compels me to recant, and acknowledge my error, before all to whom I have given the worthless present; and it is this circumstance which now brings me to you.

S. What do I hear! Can you belong to the number of those thoughtless enthusiasts, who are always celebrating the new medical doctrine, and who publish everywhere the most profound contempt for the old?

P. Yes, sir, I am an enthusiast for the new doctrine; but I have this advantage, not to be so without reflection. On the contrary, I assure you, that I never was capable of reasoning on medicine, until I

had the good fortune to apply physiology to the disorders of my fellow-creatures. It is only since then, that medicine is become fair to my sight, satisfactory to my mind, and fruitful in its practical application; in a word, worthy to rank amongst other sciences.

S. These are fashionable harangues amongst our young physicians. You will return from this error when age and experience have matured your judgment. But who suggested to you the plan of returning to Paris again, to reinstate yourself student, and especially student of the new doctrine, after having had the good fortune to escape the contagion during the progress of your former studies?

P. I have told you, sir, it was my father's illness. Have the kindness to hear me; and blame me afterwards, if you can.

For several weeks, my father complained of a slight derangement in his health. The emotion caused by my return, excited occurrences that interrupted our joy. His head became painful; he complained of a sensation of extraordinary fatigue in his limbs, and particularly in the regions of the back and loins; fever manifested itself, though moderate; his tongue appeared covered with a thick foulness, yellowish in its centre, whilst it was red in its circumference and at the extremity. He felt acute pains at the pit of the stomach; he had a bitter taste in the mouth, and a continual inclination to vomit; nor could he divest himself of a fatal presentiment, affirming, that my return would inflict

upon him the stroke of death; but this kind father consoled himself in the reflection, that he would leave me behind with an honourable existence, and worthy of the sacrifices he had made for me. This conversation was heart-rending; but the confidence I had in my extensive information straightway encouraged me. It is but a deranged stomach, *embarras gastrique**, with fever, said I; to-morrow you shall take an emetic, and all will be well. The night was restless, and the emetic, which I administered myself largely, produced abundant evacuations. A visible amendment was perceived after its effects; the tongue became more clear, and red in its whole surface. I confidently triumphed: but towards evening the symptoms redoubled their intensity; the fever acquired such a degree of violence, that my hand could scarcely support the heat of the skin, especially at the epigastric region; the beating of the pulse was accelerated; the tongue, from the scarlet red became brownish, contracted, pointed, and dry; a parching thirst succeeded to the bilious and clammy taste. The sensibility at the pit of the stomach appeared more acute, and that of the limbs was so excessive as to force cries from my father, who no longer dared to use any motion.

This exasperation did not much alarm me: it is a

* *Embarras gastrique*, the first species of the second order of febrile diseases of the French nosologists; the symptoms are, head-ach, anorexia, bitter taste in the mouth, a yellowish or whitish coat on the tongue, nausea, particularly in the morning, pain at the epigastrium. *Note of the Translator.*

gastric fever that declares itself, said I to my father; and you are very fortunate in having been relieved of your *saburra*, for it might have assumed an adynamic character. What alarms you at present, is no more than the inevitable augmentation in these disorders; but to-morrow you will be better, and the fever will terminate favourably the seventh day: in the mean time drink veal broth to refresh yourself, tamarinds with whey, in order to keep the body open, and arm yourself with courage and hope.

The third day, the fever, in place of subsiding, as I had predicted, was aggravated; the pain in the head was excruciating; the most intolerable thirst was rather exasperated than appeased by liquids, which now went strongly against the stomach of the patient. The face was flushed, and delirium at intervals perceptible.

These symptoms alarmed me. The head is threatened with a congestion, said I to myself; the fever is not only gastric, but puts on the character of the ardent fever, or *causus* of Hippocrates. Let us immediately try bleeding in the foot; but let this be moderate, for I observe some tendency to ataxia; and a too copious loss of blood may cause this to degenerate into adynamic fever.

The patient was bled, and was relieved, but he was near fainting; and this slight accident having confirmed my fears, I thought it my duty to raise the powers a little, by administering a few cups of a weak vinous lemonade. Scarcely had a few doses of this fresh specific been given, when

the fever revived, not with a pulse large and full as before, but with pulsations shrunk, and as if convulsive. The tongue put on a brownish colour. My father no longer complained of any pain, but he became totally delirious. His strength was fallen, his limbs agitated by those movements which we call *subsultus tendinum.* I saw in this stage the combined symptoms of ataxa-adynamic fever, or, to speak the old *jargon,* putrid malignant, and I was preparing to inflict the last stroke on my unfortunate father, by administering the pure wine of cinchona, camphor, musk, and the serpentaria of Virginia, when an occurrence, as fortunate as unforeseen, preserved me from the parricide I was about to commit. I beseech you to favour me with your attention a few minutes longer.

S. You alarm me. Are there then diseases of a character so treacherous, that art the most skilfully directed fails to arrest their fatal progress? Who can reveal such impenetrable mysteries?

P. They are about to be explained, sir. You have just contemplated the bitter fruits of the old practice; now admire the wonders of the new.

I was united in friendship, during my first studies, with a fellow student, who had been admitted to the degree of doctor five or six months before myself, and who practised medicine in his native town, a few leagues distant from the residence of my family. This young physician, whose reputation was spreading to celebrity, having been called in by one of our neighbours, arrived there on the fourth day of the

illness of my father, exactly at the time when I had decided on administering tonics. Informed of my return, he came to see me, and I made him acquainted with my apprehensions. My friend was a disciple of the new doctrine. He had long importuned me to follow his example; but rendered fanatical by the adversaries of the professor, who is its founder and propagator, I had hitherto always rejected his propositions. I had been inspired with such fear of this professor, on being assured I should be seduced, and for ever lost, if I had the misfortune to attend his lectures, that I could never make up my mind to hear him. My friend had been converted in consequence of having followed him once in his visit to the hospital, and since that time has never left him, but is become one of his most zealous disciples. This example intimidated me, and I avoided the physiological school with as much caution as a wise man avoids places of bad repute. This aversion, which appeared ridiculous to my friend, had more than once excited between us the most energetic discussions, during which I refused to listen to all the precepts that he would impart to me on the new practice. It may be supposed, that with such prejudices I could hardly be induced to hear his opinion on the illness of my father. However, when he formally declared to me, that I had made his whole disorder, that it would have been easy for me to have checked the progress on the first day, by applying leeches to the pit of the stomach, and that the plan of treatment I had proposed to pursue

would inevitably carry him to the grave; and when he had strengthened these assertions by the mention of many cures performed, of which I had already heard, I began to listen. He went on: I was moved. In short, vanquished by the perspicuity of his arguments, and the solicitations of my friends, I resigned to him the treatment of my beloved patient; and I promised not to interfere with his directions.

Fifty leeches were applied on this same evening; and their punctures bled abundantly during the whole night. In proportion as the blood flowed, my father recovered his intellect and strength; he repeated over and over, I am saved! I was overpowered with joy. On the morning of the fifth day, the fever was entirely gone, but the weakness alarmed me. I wished the patient to take some beef-broth; but my friend objected to it, assuring me that this light restorative would be sufficient to renew the whole mischief. I yielded. We left the patient to enjoy a profound sleep during the greater part of the day. But judge of my surprise, when, at his awaking, he asked for food, alleging that he was perfectly well, able to get up, and had no other illness than weakness and hunger. Still nothing was given him but a little lemonade, after which he again fell asleep. The next day he had some broth; the day after beef broth, and he got up. Calculating from this time, he only complained of extreme hunger, which was satisfied with caution; and his convalescence was so rapid, that four days afterwards there was no longer an appearance of his having been indisposed.

S. Well! what conclusions have you drawn from an isolated fact, and so contrary to the observation of the fathers of medicine?

P. Those which my friend impels me to draw, that the deranged stomach with fever *(embarras gastrique)* was the first degree of an inflammation of the stomach, which caused the bile to ascend in this viscus: that I had exasperated this phlegmasia by the emetic; that my veal broth and whey, which are nourishing beverages, were not sufficiently cooling for a stomach inflamed; that my bleeding in the foot was not copious enough, and that I had destroyed its good effect by the vinous lemonade; that one local bleeding, and the nearest possible to the part inflamed, is an hundred times more efficacious than bleeding in the large vessels, which is called *general bleeding;* that the inflammation must be left to subside entirely, after the bleedings, before food is given; in short, that without the happy event that brought about the interference of my friend, I should have prepared for myself perpetual sorrow. Now to these conclusions I shall add one of my own, on which I shall for ever pride myself: it is, that notwithstanding all my studies, and that erudition on which you kindly congratulated me, I knew nothing of medicine; and it was necessary that I should hasten back to Paris, in order to devote myself without reserve to the physiological doctrine.

S. Your conclusions are not quite correct, my young friend. Emetics often cut short similar fevers to that with which your father was attacked, which

would not have happened if these always depended on inflammation of the stomach, or gastritis, as you term it; for it is known, that an emetic is injurious in this complaint. Can you account for the cure of a gastritis by a remedy that so forcibly stimulates the stomach?

P. It is because the evacuation of bile, mucus (or slime), and perspiration, carry off the irritation of this organ.

S. But, once more, sir; the emetic that provokes these, violently irritates the stomach.

P. Therefore the cure does not always take place; and he who prescribes an emetic runs the risk of doubling the inflammation of the stomach, in case he does not remove it. It is exactly what occurs most frequently; and then the inflammation, exasperated, spreads through the whole alimentary canal, and takes the name of *gastro-enteritis*. My father's disorder had arrived at this stage when its progress was checked.

S. I grant you that, since the cure has proved that your father had an inflamed stomach. But if the evil had been a simple effect of bile, your emetic would have been successful.

P. The bile is not a living being, an animal moving by caprice, and diverted by throwing itself on different organs, in order to torment them, and make sport of physicians. It is a fluid prepared by the liver, to assist in the operation of digestion; a matter purely passive, which goes where irritation calls it. Have you an inflamed stomach, the bile

accumulates there. Let the inflammation exist in the lower intestines, the bile will flow in the shape of diarrhœa. Should certain varieties of irritation retain it in the liver, it will be carried forth in the blood, and produce jaundice.

S. But, admitting that the bile is collected in the stomach by the inflammation of this organ, still it must be expelled by vomiting, as the readiest way; therefore vomits should be employed.

P. Daily experience proves to physicians who are physiologists, that this is unnecessary, and that as soon as the gastritis is removed by leeches, the bile forsakes the stomach, and takes again its usual course by way of stools. I return then to my proposition, and I say, the bile being called to the stomach by the irritation of this portion of the viscera, if the emetic removes this irritation, along with the bile, the cure succeeds; but if, in evacuating the bile, it fails to remove the irritation, it changes into phlegmasia (or inflammation), and this, running over all the digestive canal, produces gastro-enteritis, the varieties of which correspond with all fevers, admitted by writers from the most distant periods of antiquity. Now, every time the irritation of the stomach is rather violent, the emetic produces this effect: therefore it cannot be prudent to expose the sick to the chance of one, every time the irritation of the stomach approaches to the degree of inflammation. Moreover, even when it exists below this degree, leeches will remove it without producing inflammation; whilst, in the

same degree, emetics often produce it; therefore, it is always better to have recourse to leeches than to emetics. In this manner are prevented those fevers called essential.

S. And what becomes of the theory of these fevers?

P. A chimera — that would not have been invented by authors, had they known how to treat gastritis as we do at present.

S. To hear you, one would suppose, that all those who have fallen by such disorders have been lost by the fault of their physicians!

P. Not precisely by their faults, because they knew no better, but by their ignorance. We must also add by the imprudence of patients, or a forced delay in the treatment; for gastritis, grown intense, no longer yields to leeches.

S. Do you also mean to say, that all the other disorders may be arrested, if taken in their commencement?

P. Why, nearly so: there were very few of which the proper treatment was understood, according to the old doctrine.

S. Be well upon your guard: you accuse all physicians who have preceded your time, of ignorance, not to say of assassination.

P. Yes, of ignorance; I dare maintain it.

S. If your doctrine is the true doctrine, all the others are false; this dilemma is overwhelming; I defy you to extricate yourself.

P. I will extricate myself by the affirmative.

S. What presumption!

P. But, if it be thoroughly established, what name will you give it?

S. It cannot be. Is it possible, that so many celebrated men have been in error for so many thousands of years?

P. Why not, if they wanted the principal facts on which science is erected?

S. But how believe that they could not discover these facts? Have they not had for observation their sick as well as you? Did they not possess also their well-organized senses, an intellect which was at least equal to yours, enlightened models to guide them, an erudition more extensive than your masters? How many physicians have there been, who have devoted their entire lives to reading, meditating on, and treating disorders; who were always on their guard against error, and the delusions of the imagination! Can it be supposed, that you have all at once found this philosopher's stone, that they have so long sought with their peculiar experience, seconded by the instructions of their predecessors? Consider it well: to affirm that you know more than all those who have preceded you, is a proposition untenable; you may rehearse it in vain; you will never persuade rational persons. This pretension will suffice, without farther examination, to charge your doctrine with imposture, or at least with exaggeration. Moreover, you are not the only presumptuous, nor the only arrogant man in medicine; the annals of this science attest the existence of a multitude of

pretenders, that exclaimed, in their ridiculous enthusiasm, " I have the true science, burn all books, and listen to me!" Thessalus, Paracelsus, Vanhelmont, Brown, and a great many others, have held this language. And what is become of them? No doubt, the same fate is reserved for you; and perhaps so immediately, that you may have to pass many years in regret and humiliation.

P. To any other person, for whom I had less respect, I would answer—You have declaimed; but what have you proved? Is it impossible to discover that which has not yet been discovered? May I beseech you to answer this simple question?

S. No, there can be no doubt of that. But how believe we are arrived at the time of this discovery?

P. But, in my turn, why not believe we are arrived at it? Is not our own era equally as good as any other? If I prove to you that we have discovered important truths, will you reject them because they happen to be of our time?

S. This question is offensive.

P. Well, then, I proceed to the development of my proofs:—

You have just seen a fever, in the first stage gastric or bilious, afterwards putrid malignant, arrested in its first period, by the knowledge of a fact unknown to the ancients. This fact is, that the fever depends on inflammation of the digestive organs. I say that it was unknown; and I prove it to you, in demonstrating that formerly physicians

did not arrest these fevers, but let them proceed, counting their days, and waiting for a crisis; or else they exasperated them, by giving injurious medicines. Now if they had known, that the main object was to remove the inflammation of these viscera, to arrest the fevers, they would have done so: therefore they were ignorant of it. What have you to say in reply?

S. I say in reply, that your rapid cure by the bleeding at the epigastrium is a rare, extraordinary, and accidental case, that will not serve as a rule.

P. I see you are not convinced by the explanation I have given you of the mode of the development of fever. You require loads of facts, which I am about to give you, in support of my theory.

Suppose, for the sake of argument, in a village, town, or hospital, &c., a hundred disorders beginning like my father's. If these are all met the first day by bleedings at the pit of the stomach, they will be stopped. If they are treated as I began to treat my father the disease will go on, and a moiety at least of them will die; others will be prolonged, and for a considerable time will leave to their victims a precarious state of health. Some will be cured in spite of the improper treatment, by a violent effort of the constitution, called a crisis; that is to say, by spontaneous hæmorrhages, formations of matter, or sweats, &c. In the first mode of treatment there will be no epidemy; in the second there will be an alarming one. The sick, if together, would become a focus of infection,

which would endanger the health of those persons who are obliged to approach them. Now this difference, which is immense, is entirely subject to the knowledge or ignorance of one single fact, that of gastro-enteritis being the organic cause of the disease. Will you now affirm, that a discovery capable of powerfully influencing science cannot be made in our days ?

S. I will answer, that you quote me a supposition. What proof have I that circumstances must proceed as you represent? Are you authorized so to generalize the observations made on your father's case ?

P. Yes, sir, I am; and when I requested you to suppose, I did no more than express in an hypothetical form a fact that is verified daily.

S. But I have not verified this fact. How can you prove to me, that it is real ?

P. If you have not, the reason is, that, notwithstanding your knowledge of medicine, you do not pursue the practice of this science; but others have verified it; it is besides proved every day. Every day, physicians — physiologists observe disappear from their practice all the pretended essential fevers; whilst those who pursue the old *routine*, though placed beneath the same sky, and inhabiting the same situations, are overcharged and tormented by the great number of these disorders.

S. I cannot give credit to it, on your word alone.

P. So then you are driven to deny facts: it is

indeed the only resource of unbelievers. To substantiate facts in the question before us, you must begin by studying the doctrine, in order to make the counter-proofs necessary, or otherwise follow with assiduity the practice of those who do. The physicians who have taken this trouble have been convinced; and here is precisely why the opponents of the new doctrine formerly forbade me so earnestly to follow the professor who superintends its instruction: they were afraid I should be seduced. You see then, that this seduction was nothing more than a thorough conviction; it will never reach any but those who seek it, and this is the cause why our adversaries remain fixed in their opinion. They are not convinced, because they have not seen; and they have not seen, because they are not disposed to see.

S. Time is necessary, my dear doctor, to verify these pretended truths. The philosophical doubt is here the most prudent; the learned societies have not yet decided on the non-existence of essential fevers. Wise men should wait their decision.

P. We must not wait, sir, when the point is a question of such importance as to know if we can arrest murderous diseases, such as are malignant and putrid fevers. Our conscience warns us not to expose the life of a single patient; and those practitioners who are so timid as not to venture on a trial, ought not to lose a moment in following the practice of those who have. Self-love should here

be silent; and from the moment a like question is publicly agitated, there are no longer either dignities or grey hairs that can exempt an honest man from ascertaining, by his own experience, if there are not means more efficacious than those he employs, to preserve his patients, of whom he loses the one half at least.

S. I will agree to that, if you can prove to me, by the examination of the symptoms of essential fevers, that they are nothing else than gastro-enteritis.

P. I am delighted that you propose to me this question. The bilious or gastric fever is only a gastro-enteritis, in a person whose digestive canal, much irritated, renders the locomotive muscles painful, and the bilious secretion very abundant. You have seen the symptoms and treatment of the disorder in my father. The mucous fever is the same disorder in a lymphatic subject, and in one whose digestive canal secretes a quantity of that mucosity called *slime;* it is characterized, according to authors, by a foul and clammy mouth, by aphtha, salivation, mucous vomitings, or stools of the same nature, pustules and scabs equally mucous, and by the slowness of its progress, which is only because the phlegmasia was improperly treated in its commencement. But it is now known that mucous secretions by the mouth or inferior channels, accompanied by fever, inappetence, thirst, pain or constraint in the digestive canal, pain in the head, or a sensation of fatigue and weakness in the limbs,

indicate inflammation of the membrane called mucous, which lines the interior of the digestive canal from the mouth to the podex. The expression, ardent fever, imports a very high degree of heat and fever in these same affections. The adynamic fever, in which, we are told, the preceding terminate, is in reality nothing more than the gastro-enteritis, arrived at such a degree of intensity, that the strength diminishes, the intellectual faculties are blunted (which causes a sort of heaviness, called stupor), the tongue becomes brown, the mouth is lined with a blackish coat or crust; but this dark colour of the mouth was preceded, in the commencement, by a bright red; the black mucus has been white, yellow, or grey, on the first days; and all this change has taken place because the inflammation was not stopped in the beginning. This fact is so certain, that one seasonable application of leeches removes the stupor in a few hours, forces back the brown color of the tongue towards a shining red, cleanses the mouth of this mucous blackness, which rendered it, as we say, fuliginous, and re-establishes the force in the muscular provision. The term putrid fever only indicates the fetidity of the breath, perspirations, and stools, that are joined to the preceding phænomena or symptoms. The malignant, or cerebral fever, is but the irritation of the brain, added by sympathy to the gastric inflammation, which produces the pretended bilious, mucous, and putrid fevers. For when the brain is primarily inflamed, this state is designated by the

terms frenzy, *arachnitis*, or *encephalitis;* but it may so happen, that the irritation of the brain, although secondary, may rise to the degree of a true inflammation; or that of the digestive canal may be developed consecutively to the *encephalitis*, where the digestive canal is not very painful, or where the bile and mucosity do not abound; very intense, it approaches to the ardent fever: but it is often the first stage of all the others. So we are told by authors, that, if it does not terminate in a few days, it runs into gastric, putrid, or malignant fever; which infers, that the inflammation of the digestive canal, at first mild, rises to a degree that causes debility, fetidity, or else is complicated with irritation of the brain.

These are the essential fevers of authors; other inflammations may be associated with them, but this is not what has been pretended to be marked by the expression, essential fever; for they had terms to indicate phlegmasia of the lungs, heart, liver, and other textures. The term, essential fever, with authors, only designed gastro-enteritis; which not being known, made them believe in the existence of a general affection. They were ignorant that the fever was maintained by the phlegmasia. They could not reconcile it to that which they knew; they considered it then as independent of any organ in particular; as existing of itself; in a word, as essential.

Authors have assigned to the different forms of the gastro-enteritis (which was unknown to them), progression, duration; periods they looked upon as

necessary. Thus the bilious fever ought to last fourteen or twenty-one days; the mucous ought to continue a longer time; the inflammatory of a day was called *ephemeral*, but if it passed this term it ought not to proceed beyond the seventh day; if it still went on, they gave it the name of one of its companions. The putrid fever had for its duration two or three septenaries, but it was not unusual to see it proceed farther; the malignant fever had no fixed duration: sometimes it deceived physicians, by a sudden death, or by an unexpected cure, which had also given it the name ataxic, that is to say, irregular. You perceive they were quite at their ease, so as not to be disconcerted in case their prognostics on the duration were not verified. All this did not hinder fevers from showing a progression of symptoms which had not been foreseen, which threw physicians into the greatest embarrassment. They knew not that inflammation was augmented, terminated, or propagated, from one viscus to another, according as the digestive organs were calmed or irritated by substances introduced into their interior. In place of extinguishing, from the first, the heat which devoured the digestive canal, they waited for a crisis. Now a crisis is here only the cessation of the irritation of this canal, which is succeeded by an irritation that produces perspiration, hemorrhage, inflammation of external parts; but this crisis did not happen if the internal phlegmasia was too strong, and often every thing was done that tended to maintain it. In effect, there were given, to force a crisis, stimulants, that fixed more and more

the inflammation in the parts affected; these were disorganized, or death supervened, from excess of irritation, and physicians were in despair at not being able to discover a better specific. This crisis was itself sometimes so violent as to cost the patient his life: for instance, one of the inflammations of the glands of the face, called the *parotid*, reproduced the irritation gastro-encephalic, and caused death; at other times the critical phlegmasia was developed in the skin, a joint, an eye, and destroyed those parts, and mutilated the unfortunate convalescent.

Those who did not calculate on a crisis, bled and next stimulated, which made the gastro-enteritis more to be dreaded; others gave wine, cordials, and cinchona, in this stage of the gastro-enteritis, which they called adynamic, or low fever. These unhappy persons were ignorant that they augmented the cause of this weakness, and rendered the disease incurable. Others administered stimulants, under the name of anti-spasmodics, to allay the convulsions and delirium of ataxic fevers; and carried to the brain, already too much irritated, an injury ordinarily irreparable. Finally, others pursued a practice the most vacillating. They gave emetics one day, and cathartics the next; returned to bleeding, anti-spasmodics, to pretended calming remedies, which were very active stimulants, such as is camphor. The consequence of all this whimsical treatment, so unconnected, at times useful, at times hurtful, was, on every occasion, that, after the termination, physicians neither knew if they had cured, nor

if they had done harm, nor why nor wherefore; and that neither their observations, success, or reverses scarcely ever succeeded, I do not say to make them capable of a happier treatment a second time, but only to enable them to know again the character of the disease that was shown to them.

S. Here is an act of accusation very well got up. But what have you to offer instead of this practice, according to your account so destructive?

P. In the place of this shapeless chaos, our professor has substituted a doctrine clear and precise, which affords the most satisfactory results. You have seen a specimen of the treatment which is proper for every case of gastro-enteritis, beginning at the unlooked-for cure of my father. Employ neither emetics nor cathartics in the commencement; in case of extreme plethora practise general bleeding, but in most cases we can do without it. So many leeches ought not, in all cases, to be applied; but you know, your intimate friend, my father, is in the full vigour of mature age, robust and very sanguineous. The number of leeches must be in proportion to the vigour and age of the subject; for the same treatment is suitable to every age, sex, and temperament; the blood from the orifices should be permitted to flow, but special care must be taken to enforce abstinence from nutritive drinks after their operation.

If the inflammation does not yield to the first application, this may be repeated, as long as the patient is not exhausted; but if he suffered, before the fever, a chronic inflammation, and is already much fallen

away, the curative means ought to be limited to the use of emollients. It is with lemonade, *eau de groseille**, the mucilaginous ptisan of gum arabic, barley water, or even pure water, and in carefully forbidding soups, that is followed up a gastro-enteritis, which has a long time resisted, or is obstinate. This resistance depends almost always on the phlegmasia having been latent or chronic before it became acute, or because the patient has been stimulated, vomited, purged on the first days, or has allowed the disorder to proceed before he called in assistance, or been guilty of some imprudence, believing himself already cured; or, after all, this may happen from his being seized by some active moral affection; for, often, fear renders these disorders dangerous, and produces cerebral irritation in pusillanimous persons. Whatever may happen, when the fever still continues in a patient that can no longer be bled, the use of those beverages must be persevered in, which I have just indicated, or others analogous. Topical emollients, lenitive clysters, the pediluvium, the application of cold water or ice to the epigastrium or the head, in the hot season, where there is no apprehension of inflammation of the lungs, may be used, and then calmly wait, while nature conducts the cure of the phlegmasia.

I ought to apprise you, that this is very difficult to obtain in patients who have, in the first instance, been treated on the stimulating plan. The phleg-

* Currant jelly dissolved in water.

masia is sometimes protracted beyond a month; but whatever must happen, if the treatment is conformable to the plan I have here laid down, it will be exempt from all reproach.

S. Have there been observed instances of similar prolongation in the practice of the old physicians?

P. Hippocrates gives examples of duration, that have proceeded beyond a hundred days. It was because he did not torment his patients by stimulants. But our modern Brunonians rarely observe a like progression; the irritation which they cause in the digestive organs, as soon as the patient's strength begins to fail, hurries on the work of death, in the midst of convulsions and delirium. Sometimes, however, there are those who resist, and if they are not extricated by a violent crisis, they remain in a state of languor much more than a hundred days; for their health continues precarious for a long time.

S. When, notwithstanding your treatment, the fever is prolonged, do the sick suffer very much?

P. Not at all; and it would be said, they have no longer phlegmasia; accordingly some physicians, very ignorant of physiology, although in other respects well informed, and men of talent, have believed, that the fever became independent of all local affections when they saw it continue, after they had quieted the pain in the stomach and intestines by local bleedings. They were ignorant of the fact, that the inflammation of the mucous membrane of the digestive canal is rarely painful; that, in order to be known, it does not require the local sensibility: the

sense of obtuse pain in the limbs, the inaptitude for exercise, the frequency of the pulse, the burning heat of the skin, pain in the head, are sufficient to characterize it, when combined with redness of the tongue, inappetence, thirst, a higher degree of heat on the belly than on other parts, and for a much stronger reason, the sooty appearance of the mouth, the brown colour of the tongue, and stupor. They did not understand the mode of sensibility of the digestive canal, and knew not that this irritation is rather recognized by the influence it exercises over the other organs, and by the painful sensation developed in these, than by its own pains. But an attentive disciple of the physiological doctrine is not ignorant of these peculiarities. He recognizes the gastro-enteritis, without requiring to press forcibly the abdomen of a patient to cause pain; and on the slightest indication he at once attacks the disease, removes it, and anticipates the explosion of all those pretended fevers, which have been the torment of physicians in past ages.

S. All this appears to me very strange. I will readily grant you, that these fevers in the commencement may be arrested by bleeding; but when they are arrived at the stage of adynamia, which signifies weakness, defect of powers, it appears to me, that the antiphlogistic treatment is no longer proper.

P. This is an error, sir. If the weakness is in the organs of motion (the muscles), it is because the power is concentrated in the viscera, as is proved by the excessive heat, which destroys these, and

which is repeated on the skin, the extreme acceleration of the pulsation of the heart, and the promptitude with which the muscular powers are re-established, as soon as blood has flowed. It is to this ignorance of the misapplied direction of these powers, that the prolongation of the majority of these pretended essential fevers is owing. For there are few physicians who do not begin the treatment by antiphlogistics; but as soon as they perceive the strength diminish, the dread of adynamia prompts them to have recourse to stimulants, wine, kina, serpentaria of Virginia, camphor, &c. The phlegmasia revives in consequence, the mucous membrane of the intestine ulcerates, and a very long time is required to obtain a cure, even in following the most rational plan.

S. Now, sir, you believe, that the digestive channels are ulcerated, in adynamic or putrid fevers? If that were the case, they could never be cured.

P. I beg your pardon. Nature effects a cure in the space of a few weeks, if they are not aggravated by stimulants, provided the patient is not too much exhausted; and when he falls by marasmus during this operation, there are found in the intestines numerous ulcers already cicatrized, which proves, that, if the patient had possessed force to resist a longer time, the cure would have been completed.

S. Therefore, his strength must be supported to prevent his sinking.

P. I grant it; but it is with mucilaginous, gummy, and saccharine beverages, to which each time is

added a sixth part of milk, that this ought to be done. The weakest chicken broth is of itself sometimes sufficient to exasperate the inflammation, and along with it the fever. With how much more reason then should be avoided the stronger soups, wine, cinchona, and incendiary drugs?

S. Then you must have a very tardy convalescence; and this, it seems, is the reproach that is generally directed against you.

P. Such a reproach is unfounded. What prolongs the convalescence is the irritation that remains in the viscera after the termination of the fevers; so the convalescence is very long after adynamic fevers treated by stimulants; but those treated on our own plan are always of short duration; and nothing but the most egregious imposture or complete ignorance of our practice could make our enemies assert the contrary.

S. However, there is published in a military paper which I sometimes read at a friend's house, who is employed in the war office, that formerly the great Frederick had prohibited the practice of bleeding in the military hospitals, because he had remarked that the convalescences were prolonged, that it produced dropsies, and augmented very much the expenses. He ordered, in place of this, rich soups; and from that time it was observed, that the soldiers continued a much shorter time in the hospital, and left it more fit to support the fatigues of war.

P. It is really curious to observe princes become authorities in medicine. The adversaries of the phy-

siological doctrine must feel very feeble indeed to have recourse to the employment of such expedients! How! the military inspectors of the service of health, old physicians, grown grey in the hospitals, who ought to be bristling with medical erudition, have recourse to the king of Prussia, to refute a colleague, who only owes his success to the development of a luminous doctrine, justified by the practice, in the presence of a multitude of witnesses! Is not this the summit of ridicule? Nevertheless, I willingly answer this objection; for we fear none.

When the old physicians employed bleeding, in fevers, they were guilty of two serious faults: the first in not practising it near to the seat of inflammation, for they were satisfied with general bleedings; the second, in destroying the good effects of it, by giving tonics and evacuants. By this twofold error they weakened their patients, without diminishing the disease, and consequently made the cure more tardy and difficult. Such was the practice of the physicians of Frederick. Moreover, when you have read the article where this indirect reproach is aimed at us, you must have formed a just idea of its author.

S. Certainly, I saw some excellent lessons on gastronomy, and I believe the author may claim a rivalry with the author of the *Plain Cook*. But let us abandon jokes, the subject is too serious.

P. Permit me to resume it. Now, since those pretended essential fevers are only fevers produced by local inflammation, they bear a resemblance to fevers caused by fluxions of the chest, *angina*, the in-

flammations of the skin, &c. They are then no longer essential; and since they are no longer essential, but consecutive, they ought to be treated as other consecutive fevers: that is to say, by combating the inflammation that provokes them. Now the best means to reduce this inflammation are local bleedings; that is to say, practised as near as possible to the seat of phlegmasia. Therefore, the application of leeches to the epigastrium (pit of the stomach) and abdomen, are the best means to triumph over these disorders.

Wherever inflammations are discovered, emollients only are applied. Now inflammation of the digestive canal is at present known, therefore it ought to be treated by emollients only. The stimulant practice, till now adopted, must be rejected, whatever might be the learning and celebrity of those who have recommended it.

S. Your arguments are pressing. I want experience, as you have justly said, to enable me to reply. I cannot do otherwise than fairly agree, that the common bilious, mucous, putrid, and malignant fevers, are the effect of an inflammation of the stomach and intestines, which have not been stopped in their commencement; but it is said, that you range in the same order the plague, the yellow fever, and the dreadful *cholera morbus*, that caused such mortality in the East Indies in 1817, that it is reported to have carried off 600,000 souls in those unfortunate countries.

P. We observe in all the gastro-enteritis as the fundamental sign; the remainder is but accessory.

S. Oh! for once, this is too much; and you would be exceedingly embarrassed, if I required you to give me the proofs of it.

P. Embarrassed, sir, embarrassed! not more, I assure you, than I have been to make you understand the true nature of common fevers. But since I perceive you have lost your temper, I beg permission to retire.

S. I have not lost my temper; I am much in the habit of growing warm in discussion. Yet I would not detain you against your will; but promise me that you will return to see me to-morrow. I am curious to know how you will defend this new thesis.

P. With pleasure.

DIALOGUE II.

INFLUENCE OF HEAT ON THE STOMACH, PLAGUE, YELLOW FEVER, CHOLERA MORBUS, TYPHUS, CONTAGION, INFECTION.

PHYSICIAN. I am ready, sir, according to your invitation.

SAVANT. I thank you, sir. You have volunteered to prove to me, that the plague, yellow fever, and cholera morbus are gastro-enteritis, analogous to essential fevers of our own climate. I attend to you.

P. A degree of heat much more excessive than in our own climate, and consequently rendering those who inhabit it more irritable, and putrid effluvia more noxious, these constitute the only differences.

S. And how can all that produce gastro-enteritis?

P. The heat prepares, or rather determines this, by heating and rendering more irritable the stomach, as is proved by our excessive thirst in very hot summers.

S. But, my poor doctor, heat is a debilitating cause. How can you suppose it produces inflammation? Observe how lazy people are in the summer.

P. Heat weakens the organs of motion, but irritates the stomach and intestines: so water is re-

quired to allay this irritation. Try to do without it after fatiguing exercise, on a hot day, when you have lost much perspiration, you will find that your stomach will become as hot as a heated stove; persist in this, and I will not give you three days to be attacked with gastritis.

S. This is fallacious, my dear sir. This is theory. I make use of good wine, in this case, to quench my thirst. If I gorged myself with water, I should be attacked with disordered stomach, colic, and fever.

P. How! you would overcharge your stomach with pure wine, every time excessive heat makes you thirsty? And what will become of your head? Do you find yourself quite fit to study mathematics, after having taken a similar allowance?

S. I do not mean to say, that I drink pure wine; I add to it at least two-thirds water.

P. You mix two-thirds water. Well, sir, if the weather was three times as hot, or you were younger, and three times more plethoric and irritable, you would be obliged to mix three times less wine, and six times the quantity of water. The refreshment that you seek in this kind of beverage is then in proportion to the water, and not to the wine. It is the same with food. Do you believe you could eat as much melon or raw fruit in the winter as in the summer?

S. Certainly not. It would chill my stomach and I should have an indigestion.

P. Your stomach is therefore hotter in summer than in winter.

S. It contains more heat in winter, since I can then digest more bread and animal food than in summer.

P. This is another error. Meat is an irritating and heating aliment; and if you support it better in winter, it is because your stomach is less heated and less irritable than in summer. Meat only inspires disgust when the stomach is inflamed, whilst cooling draughts are ardently craved. Now, the heat of summer causes in this organ an irritation, which approaches near to inflammation; so also have we then nearly the same appetite as in gastritis; and this disease is inevitable, if these desires are thwarted.

S. And from that you conclude, that the plague and yellow fever are gastritis, and gastro-enteritis?

P. No, sir; but I infer, that the atmospheric heat inflames the stomach of persons born in temperate or cold climates, who are removed to warm countries. Their custom, when here, of nourishing themselves in the same manner as in their native country, and the prejudice that induces them to run to fermented liquors for tonics, raises the gastric irritation to the degree of inflammation; and so it is that this progress is so much more rapid in the younger and more plethoric subjects. Such is the cause, no doubt, why the flower of our European youth has been cut off in the colonies, from time immemorial.

S. But again, a gastritis of this kind can have nothing in common with the plague and yellow fever.

P. First, sir, allow me to speak to you on putrid miasmata.

S. Oh, oh! Then putridity also finds a place in

your system? If I am not mistaken, this is certainly humorism. Hereafter you must have your depuratives and antiseptics, &c. I felt pretty well assured, that, with your sound judgment, you would not adopt an exclusive theory, which only admits inflammation, bleeding, and gum arabic water. This article begins to reconcile me a little to your doctrine.

P. Stop there, my dear patron! don't go so far, I entreat. Putrid miasmata are vapours or gas disengaged from vegetable or especially animal bodies, deprived of life, and exposed to putrefaction, beneath the influence of air, humidity, and atmospheric heat. The more these attributes are pronounced, the more rapid is the decomposition, and the more deadly are these vapours exhaled; that is to say, irritating, they penetrate into our bodies, and determine inflammation; and gastro-enteritis is manifested by the same symptoms which characterize those we have before us. For instance, the case of my father.

S. I stop you in my turn, doctor. By what channels do your miasmata reach the digestive organs? Is it not rather the skin that receives it directly, and the lungs absorb it in respiration? Why then does it not produce cutaneous diseases, catarrhs, pleurisies, fluxions of the chest, and phthisis pulmonalis? What affinities direct it to the stomach and intestines?

P. The putrid vapours are swallowed with the saliva, with which they continually mix; the digestive surfaces are impregnated, and the effect which these produce is so immediate and so characterized, that persons unaccustomed to these, perceive the dis-

agreeable taste, and complain as soon as they are exposed to an infected atmosphere. They experience nausea, a loathing of food, colic pains, pain in the head, a general lassitude; in short, all the most ordinary signs of gastro-enteritis. The skin may suffer from it: so there are often observed on this envelope erysipelas, carbuncles, and malignant pustules. These inflammations almost always accompany those of the digestive channels, under the influence of miasmata generative of the plague; glandular inflammations, or buboes, are also joined. As to the lungs, these are only inflamed consecutively to the gastric channels, and not in every case where these channels are affected. The inflammation in the gastric channels is also repeated in the brain.

S. What attests the primitive existence of gastro-enteritis in the plague?

P. The similarity of symptoms between this disease and our most ordinary fevers, and the inspection of dead bodies. All physicians acquaint us that they resemble our malignant fevers; and the blunders which took place in the plague of Marseilles, and various other places, confirm this analogy. The treatment also furnishes us the last proof.

S. Do you treat the plague as a putrid malignant fever?

P. Yes, sir, and our successes are the same; although they are less numerous, owing to the magnitude of the evil.

S. And the yellow fever?

P. It approaches still nearer to our ordinary fe-

vers, since it has neither carbuncles nor buboes. The heat and the putrid exhalation on the shores of the sea and large rivers, infected harbours, and other sources of putrefaction, are its only causes; and it ought to be treated as the gastro-enteritis of my father.

S. Why then did your medical brethren suffer so many victims to perish at Barcelona?

P. Because they were ignorant of the physiological doctrine; but we have a great number of followers, who have studied the doctrine, that stop the progress of the yellow fever by leeches applied to the pit of the stomach, and on all the surface of the abdomen, when these animals are to be had. But in want of these, they apply scarifications and the cupping-glasses, and employ general bleeding, prescribing cooling remedies, abstaining from emetics, and pretended tonics; and if they do not succeed in removing the disease, they at least mitigate symptoms, and obtain a far greater number of cures than the stimulating practitioners. The mulatto women have already perceived the danger of using irritating remedies, and many years since have been satisfied with the use of acidulous clysters and beverages. The prejudices with which the physicians of the old school are imbued prevented their turning to advantage a practice so discreet. To receive instruction from those uninitiated in their mysteries, would have been too humiliating! But physiologists are not so arrogant; encouraged by their professor, they have adopted this treatment, and have perfected it.

Many of them have already made profession of the doctrine in printed works; amongst others, Dr. Lefort, physician to the king, at Martinique, who has just published an excellent pamphlet on this malady; others have addressed observations to the editor of the *Annales de la Médicine Physiologique.* These will shortly appear, and the truth will shine with such a brilliant *éclat*, that none can mistake its ascendancy.

S. I will wait for this brilliant *éclat* before I declare myself convinced. In the mean time, permit me to doubt; for I have much difficulty in believing that the anti-phlogistic means alone can effect anything against a contagious disease, which communicates itself to all those who approach it, and frequently carries off persons in the space of a few hours. I should like to see you in the centre of it, with your leeches, lemonade, and gum water.

P. It is possible that I may have done as much as my brethren, who have had the advantage to be on the spot. We do not flatter ourselves that we can cure those persons who have not even time to call for assistance. So, when the method is known, every one is on his guard, and loses not a single moment in deliberating. It is probable that those who perish so rapidly may have had already in the viscera an irritation, perhaps occasioned by an improper diet; and I presume, that if it were universally known, that tonics and high living are more calculated to encourage the yellow fever than to prevent it, these almost sudden deaths would be far from occurring so frequently as they have up to the present

moment. But you have let escape you the word contagion. I conceive myself obliged to develop to you its signification.

S. Spare yourself that trouble. Contagious fevers are those which spread from one to another, in a town, canton, or empire, or may be carried into a sea-port, by vessels coming from ports where it exercises its ravages. The yellow fever is propagated in this manner, and no disease is more contagious than that.

P. Permit me to remark, that you consider the question in a manner much too general. The mode of propagation you have just assigned to the yellow fever has much more reference to infection than contagion; but the one must be necessarily distinguished from the other, in order to serve as a guide to the physician, in the sanitary regulations he may suggest to authority.

S. So you take a part in the question of contagion and infection, which I have seen discussed in various works for some years. As for myself, I protest to you, that I could understand nothing of the matter; but it appears to me, that too much caution cannot be used to stay the progress of a malady susceptible of being carried from one country to another, and I believe this is the way the faculty of medicine has resolved the difficulty; besides, I am curious to know how you distinguish contagion from infection.

P. Upon the authority of the founder of the physiological doctrine, the generating sources of mias-

ma are susceptible of the following distinction:— First, Sources arising from the decomposition of organized bodies deprived of vitality, marshes, low lands bordering on the sea, places of interment, slaughter grounds, and every situation where dead bodies are decomposed in the open air, or are buried too near the surface of the earth. Second, Sources caused by the assembling of living animals, healthy or sick, prisons, hospitals, towns besieged, ships at sea. Third, Sources consisting in isolated sick, who communicate to healthy persons the disorder with which they are attacked. Now the plague, yellow fever, and those commonly called hospital or jail fevers, and which are observed in our climate, are dependent on the two first kinds, since they do not spread beyond the sources that produced them. The small pox and the measles belong to the last kind, since we see them communicated from one to another, in every state of the atmosphere imaginable.

S. Allow me a moment. You have just said that the yellow fever does not spread beyond its generative source. How then does it travel by sea to such considerable distances?

P. Because ships become sources of the second kind. It would be the same with an hospital situated in proximity to the primitive source of this disorder, in a healthy place: for instance, on a height exposed to the north wind. If a large number of sick are here confined together, still the yellow fever will not maintain itself here, but in proportion as the atmospheric heat keeps up a high inten-

sity. It is not so with the small pox. No medicine can arrest its propagation.

S. These are distinctions I had not yet made. The consequence is, that cordons of troops, stationed to circumscribe the limits of the yellow fever within its primitive source, only serve to condemn the whole of the unfortunate inhabitants shut in, to a more certain exposure to the disease.

P. You have said so, sir. Humanity does not less condemn such measures than the interest of commerce and diplomacy. In the case of yellow fever, the first thing to be done is to facilitate emigration to a healthy situation, to treat the sick separately, or under well-aired tents, to guard against the formation of an artificial source, analogous to that on board ship; finally, to disinfect the primitive source, in facilitating the flow of stagnant waters, and preserving cleanliness in the streets, public places, quays, and cautiously observing the interment of dead bodies. With these precautions, we shall no more have to dread the extension of the evil, either on the part of the sick, gone abroad from the source, or the clothes or utensils that have been used about them.

S. Have you any proofs of what you have advanced?

P. I have the authority of Dr. Devèze, who has practised medicine in all the latitudes of America, and who first proposed to employ the word *infection* to designate the propagation of disease, proceeding from a source of putrefaction, from that which results

from the communication of a healthy with a sick person, independently of every other kind of source. I strengthen myself in this by a work of the highest importance, written by Dr. Lassis, who demonstrates, that all pestilential diseases, from the most distant periods to our own time, have possessed local causes easy to be accounted for. The opinion of these learned authorities was at first confirmed by that of another French traveller and physician, not less respectable, Dr. Lewis Valentin ; but now it is become that of the majority of American physicians ; and the epidemy of Barcelona has definitively converted it to a certainty ; since not one of the inhabitants, healthy or sick, that were scattered in the environs of the city, did there communicate the fever.

S. And the cholera morbus of the East Indies, what is your opinion of it?

P. Dr. Gravier, physician to the king, at Pondicherry, has shown in a learned dissertation, presented this year, 1824, to the faculty of physic of Strasburg, that the disease was not contagious, but depended on the excessive heat of the day, contrasted with the cold at night, combined with a diet too irritating, which exercised their action on large bodies of troops, in Calcutta and its environs. The sick that were treated by irritating remedies nearly all perished. Blood-letting and emollient beverages saved, in a few hours, all those who were fortunate enough to obtain this assistance in the moment of its commencement. Dr. Gravier, a witness of the

epidemy, has spoke according to his own experience, and that of many of his professional brethren, who, like himself, have practised conformably to the principles of the new doctrine.

S. What is your opinion concerning the propagation of the itch and syphilis?

P. That they are contagious, non-febrile, which can only be communicated by contact, and the immediate application of the produce of the local irritation, be it on the surface of the skin, or on the skin stripped of its epidermis. But all cases of syphilis are not the effect of contagion.

S. I like to see you treat the important questions of Hygiene, of medical statistics, and carry thereto a discussion truly philosophical; but I discover that you fall again into exclusions, and that your views contract prodigiously, when I hear you affirm, that you have only leeches and spring water to encounter the plague and yellow fever. Do you not then possess some specific, that may combine with the corruptive miasma, to neutralise its action, or give to the animal economy the necessary energy to throw it off? My imagination is gratified at the idea of an anti-putrescent, which, diffused in the animal fluids, arrests at once the fatal progress of their depravation; as a powerful tonic supports the vital force in its struggle against morbific matter, and prevents its exhaustion in efforts that are unnecessary. But always water! bleeding and water! What a melancholy perspective for the unfortunate, worn

out by the pangs of disease! Your practice is wretchedly poor! Acknowledge it: it is almost always negative.

P. It is not, sir, so much as you imagine, since its principal intention is to remove from humanity the causes of destruction. Is not he who parries in fencing equally on the alert with him who attacks? But your error originates in the totally erroneous notions that you form to yourself of the state of the living economy in the disorders that engage our attention. You represent the miasma as constituting a morbid matter, a corruptive yeast, which multiplies itself in the animal fluids, assimilating these to its own nature; and you figure to yourself the solids as acting in all their textures with an equal energy, to enclose this ferment in particular humours, and force it with violence towards the exterior. It is no such thing, and I flatter myself I shall prove it to you most completely.

It is not the casting off of the miasma, which is the object of the effort of the animal economy; the miasma may penetrate to and circulate with the fluids, impregnate these every instant, and go forth from the body with those that are continually expelled, as perspiration, saliva, urine, fæces, without the necessity of any extraordinary effort. This fact is beyond a doubt, since no person, plunged in an infected atmosphere, can prevent the absorption of the miasma; since their stools, the gas that escapes from their intestines, are impregnated by this miasma,

as is well known to anatomists, fiddle-string makers, nightmen, &c., in short all those who pass their lives amidst putrid exhalations. That which deranges the order of the animal functions is the inflammation produced by such miasma in those who are unaccustomed to support its noxious powers. It is also the inflammation that exposes the lives of the sick attacked by this cause. The efforts that you consider as conservative, as the fever, are by no means in proportion to the quantity of miasma absorbed, but in proportion to the intensity of the inflammation, as I shall endeavour to prove by two incontrovertible facts: — An individual, in whom the miasma fails to produce inflammation, supports for a long time its action, without experiencing all these febrile efforts; whilst he who is predisposed to inflammation requires but to be momentarily exposed to the influence of the miasma to contract a most violent fever; and although he takes care to remove immediately from the cause that produced this, in proceeding far from the source of infection, which is tantamount to saying he absorbs no more miasma, nevertheless he will not fail to run through all the stages of the disorder, if nothing arrests its course; whilst the former will continue with impunity to expose himself to the operation of the miasma. Such is the first fact in favour of my opinion. I now proceed to show the second. If the efforts of the febrile state depended on miasma to be expelled, these would never terminate in a patient who continues to

dwell in the source, since this miasma would be incessantly received and renewed. Nevertheless, these febrile efforts terminate, and the convalescent continues to infect himself, without suffering a relapse, unless he contracts a new inflammation. Had it been otherwise, none of the sick could have been cured at Barcelona; none could be cured aboard ship, or in the hospital where the disease is contracted. Let us add to these arguments another not less peremptory, that will lead us to the theory of the treatment.

If the febrile efforts were absolutely necessary for the expulsion of the miasma, all the sick in whom these efforts fail in the beginning would be infallibly destroyed by the progress of the infection. Now it is precisely the contrary that is observed. The miasma is absorbed, and produces inflammation; an abundant accidental hemorrhage, such as the menstrual flux, or a bleeding at the nose, or immersion in cold water *, removes the inflammation, and the patient recovers rapidly, even in the centre of the source of infection that continues to furnish its miasma.

All these facts were known before the physiological doctrine; but as they were not explained, none of their fruits were reaped for practice. As to ourselves, our conclusions are clear, since the presence

* Instances have occurred of persons labouring under plague, or the yellow fever, that have been cured by precipitating themselves in the sea or a river.

of the miasma in the animal economy furnishes no particular indication. The treatment of fevers, caused by the source of infection, is that of inflammation in general; and since the phlegmasia is seated in the organs of digestion, this treatment is analogous to that of gastritis and gastro-enteritis, occasioned by every other cause, as well as by putrid miasma.

S. You may be right; but your cures by immersion in cold water appear to me to be owing to the fortifying action of cold; for I have read in the best authors, that cold is a sovereign tonic.

P. These authors have deceived you, sir, as they were deceived themselves. Cold, applied externally as well as internally, diminishes irritation. It fortifies him who has too much; it debilitates him who has not enough; it is tonic in the disorder under consideration, as is bleeding; but its effects are less certain, because they are less permanent.

S. Then you admit of debilities from excess of irritation?

P. Undoubtedly, and all those produced by inflammation are of the number. Recal to your memory the adynamic fever. You perceive the importance of this great principle.

S. I do; but to combat essential fevers, which, according to you, are not so, have you got then no other remedies than bleeding, cooling beverage, and the cold bath? Since you refuse me specifics for the miasmatic phlegmasia, which, I

think, you also call typhus, substitute for this at least some energetic means, that I may not always hear of debilitating measures.

P. You will be satisfied, sir. We employ sometimes in these phlegmasiæ, irritations, which we call *revulsives.*

S. It is true, I have lately heard speak of revulsion, without paying much attention to it, because the old professors of medicine did not appear to hold it in much estimation.

P. They, nevertheless, made use of it, although they did not understand its mode of action.

S. *Revellere,* to tear by force, consequently to change the situation. Is not this the sense you attach to it?

P. Exactly so. We irritate one part with the intention of destroying irritation in another. It is in this way we oppose pain to pain, inflammation to inflammation, when we apply blisters, cauteries, &c.; but the ancients, who only had in view the evacuation of humours, called this practice derivation.

S. Well, is not this expression as good as the other?

P. It expresses the same thing; but a different theory is attached to it. I will explain myself. In the application of a blister, the intention is to call towards the skin those humours that tend towards the internal organs: in employing such means, we propose to ourselves, as I have already told you, to substitute an external to an internal irritation.

S. Where then is the difference? You have changed the theory, but the practice continues the same.

P. It is very far from being the same. There are two things to be distinguished in the action of revulsives on the skin; in blisters, for example: the irritation and the evacuation of humours. The ancient practitioners only looked for this last effect, and sought to draw the humours towards the exterior, and divert their course from the internal organs; but since, in irritating the skin, these organs are always irritated, they often augmented the internal humoral congestion, instead of diminishing it. To obtain this last effect, the irritation must, in the first place, be reduced by bleedings, nor be of so long a standing as to have disorganized the viscera. The moderns, who have remarked this, do not apply counter-irritation on the skin, until they have sufficiently reduced the internal irritation by bleeding; then that which is excited in the skin becomes the strongest, and the revulsion takes place. This is one of the great improvements our theory has introduced in the treatment of inflammatory diseases.

S. But how is it, that this irritation, so palpable from blisters, and the increase of fever resulting from it, was not perceived by the professors of the art?

P. In time they were; but it did not succeed in correcting physicians, who always saw in it the

means of raising the exhausted powers, and they thought they performed wonders in applying it to the treatment of fevers, which they called adynamic. Now I have shown you the bad effects of internal stimulants in these maladies; those of blisters are nearly the same, and the most prudent plan is to abstain from their use.

S. Business calls me away; but promise that to-morrow you will elucidate the diseases of the chest.

P. I engage myself with pleasure.

DIALOGUE III.

INFLAMMATION OF THE LUNGS.

PHYSICIAN. You have asked me, sir, to give you the theory of disorders of the chest; the most important to be understood, are the inflammations. Do you wish me to speak of the acute or the chronic?

SAVANT. Of both. Nevertheless, I think you cannot find fault with the treatment of the first; for fluxions of the chest, which I believe you call peripneumony and pleurisy, were always known, and have been always successfully treated by bleeding.

P. We have not the spirit of headstrong opposition, sir; we adopt the old practice when it is good, and we continue to treat fluxions of the chest by bleeding.

S. I am delighted to find you agree with Sydenham, Tissot, and all the most respectable authorities.

P. Allow me, sir; you have interrupted me. I was going to inform you, that we have very much improved this method in the diseases under consideration.

S. And may I ask in what particular?

P. Few physicians pushed their bleedings far

enough to arrest the active inflammation of the chest. They contented themselves with reducing the force of the pulse, and left to nature the toil of completing a cure.

S. Were they wrong? And would you exhaust a patient to perform a cure?

P. This practice does not exhaust; the strength is rapidly recovered, whilst those in whom the removal of blood has been spared often continue to retain a milder inflammation in the lungs, which leads on insensibly to phthisis. But there is one way of sparing the blood of these patients, in rendering certain their cure, which is the application of leeches to the chest, after taking blood from the arm.

S. In what does the advantage of this method consist?

P. In this, that the flow of blood from the punctures made by the leeches, after the falling off of these animals, acts in a manner more direct upon the focus of the inflammation, and much more permanent than the bleeding in the arm, which is over immediately, after which the disease gains a new ascendancy.

S. This reason appears to me satisfactory, and I confess I had not even dreamed of it. But are you not afraid of losing more blood by the orifices made by the leeches than by the lancet?

P. No, sir. The superficial bleedings of the skin, which we call *capillary*, cause less weakness than bleedings of the large vessels; besides, is it not in our power to stop the blood when the effect is

produced? The practitioner ought to watch; it is his duty. This precaution is most important with children, since the hemorrhage may be excessive; and on no account can they be lost sight of as long as the blood flows, whatever may be the disease for which leeches are applied.

S. These rules are very judicious. But have you only bleedings to cure peripneumonies and pleurisies?

P. Blisters, applied to the part of the chest where the pain is felt, to follow the bleedings, are here of the greatest efficacy; but if they are used before sufficient bleedings, they increase the inflammation of the lungs, or else disguise it, in removing the pain, whilst the inflammation, unchecked, works the destruction of the organ, and leads to consumption. To these means should be added, the use of cooling beverages, without the addition of any acid, and abstinence from food and broth. It is necessary to preserve a general warmth on the body. Emollient poultices applied to the chest contribute to assuage the pain there, either before or after the blisters, and are the best remedy for the irritative cough.

S. I have nothing to say against a practice so judicious. I have read in authors, that there are bilious, putrid, and malignant peripneumonies and pleurisies. How do you treat them?

P. These bilious disorders of authors do not depend upon the bile; the blood may be impregnated with this liquid, without causing pulmonary inflammation. The jaundice furnishes a proof. The dis-

ease called bilious pleurisy is only the complication of inflammations of the stomach and chest, and the cure is as speedy as in a simple case. With regard to putrid and malignant peripneumonies, they depend on the active inflammation, not arrested in the commencement, which ravages at the same time the lungs, digestive organs, and the head, and these cases require the inflammation to be combated by local bleedings, wherever it is found.

S. Your doctrine is consecutive. You have said that peripneumony may produce phthisis: this seems to me a paradox. Do not consumptive subjects, from their birth, inherit the seeds of the disease?

P. Phthisis is only a chronic inflammation (that is to say slow) of the lungs. Some children may be born with it, for the fœtus may suffer all the phlegmasiæ, but their death very soon happens. With respect to those who reach the age of adolescence, manhood, and old age, before the disease declares itself, it is certain that none of these derive from their parents the seeds of the malady.

S. How do you prove that?

P. By the examination after death of bodies of subjects predisposed to phthisis; these never exhibit pulmonary alterations, when they have fallen by other disorders.

S. What you now affirm appears very extraordinary, for I have numerous instances of hereditary phthisis.

P. It is quite natural for children to inherit from

the constitution of their parents. They are born then alike with irritable lungs, confined in a narrow chest, which renders them more liable to contract pulmonary inflammation. But those who have arrived at adolescence were not born with these inflammations; and it is even possible to preserve them from it, during a long life, by employing the necessary precautions; that is to say, by preserving the sick from cold, and curing the pains in the chest, and spittings of blood, as soon as these are manifest.

S. What precaution should be employed against those small white bodies called tubercles, which develop themselves in the texture of the lungs? This question is unexpected; but recollect I have read the most modern and esteemed works on phthisis pulmonalis, and have there seen recorded, that tubercles are innate, and that their formation precedes the apparition of every symptom of phthisis.

P. Have you read the *Histoire des Phlegmasies?*

S. No; I have not consulted the works of your professor.

P. So much the worse, sir; so much the worse; for there you would have found the truth of what I have advanced, that tubercles are never met with in the lungs of those persons who have not suffered from inflammation of these organs.

S. Then you attribute the formation of tubercles to inflammation?

P. Yes; and we furnish the proof of it in preventing their formation in persons the most pre-

disposed, by the complete cure of their peripneumonies, catarrhs, and spitting of blood, technically called *hemoptysis*.

S. Then you rank colds with inflammations of the lungs: these I considered, after some authorities, as mucous or catarrhal disorders, produced by the transport of the secretion of perspiration to the throat and bronchial surface.

P. Then you have not read the *Nosography* of Pinel, which was the esteemed authority, before the physiological doctrine?

S. Yes, I have; but the term mucous phlegmasia, which served as the title of these affections, was the cause of my considering them as diseases totally distinct from inflammations.

P. Now Tissot, whom you quote with so much pleasure, has said, that every cold should be considered as a mild fluxion of the chest.

S. You are correct: these errors are excusable in a person out of the profession. But to proceed: how do you conceive that colds are capable of producing tubercles?

P. Have you never observed the glands of the neck swollen, in consequence of an inflammation of the throat?

S. I have.

P. Well: it is in this way that the tubercles in the lungs are formed. They are small gland-like bodies, that are developed in the lungs, around the bronchia, and in other parts of this viscus, which

are become the prey of a protracted inflammation. These glands enlarge, resolve, suppurate, and form ulcers, which ultimately destroy these organs. Sometimes it happens that the substance of the lungs enters in the suppuration, without previous tubercles; this takes place where inflammation proceeds more rapidly, and phthisis is not unfrequently the consequence of it.

S. According to your theory, cases of phthisis strongly characterized are incurable.

P. The cure is very difficult; nevertheless it is sometimes attained: but the surest plan is to cure the inflammation of the lungs before this has occasioned ulcers, indurations, and other disorganizations, at first partial; because these diseased alterations are propagated over the whole organs, and end in their total destruction.

S. This sentence is not very consoling; for we, the public in general, know not how to discern the period, at which this disorder is still curable.

P. The error is not yours, but belongs to the physicians of the old school, who tell you that a cold is nothing; that it will disappear if you keep yourselves warm; or on other occasions assure you, that the cough and the pains in the chest, that remain after pleurisies and peripneumonia, will subside as soon as your usual strength is recovered; who assure you besides, that the cough is nervous or rheumatic, and requires only a little ether or opium; who, in short, content themselves with

prescribing asses milk after an hemoptysis, under the pretext that the principal and only indication is to calm the blood.

S. It is very true, that such consolations are dealt out to us. But would you desire to confine the sick, in this weak state, to the use of gumptisan diet and bleeding? They would never recover their strength, and you know that weakness is sufficient to cause consumption.

P. This is another error that you have been taught. Weakness does not produce phthisis. It is even necessary to carry this to a certain extent, by low diet and local bleedings, to destroy the inflammation of the lungs, as you very justly said when you thought you were directing your raillery at us; but as long as the weakness continues, the influence of cold and irritating remedies must be cautiously guarded against. By these precautions, made in seasonable time, every species of phthisis is prevented.

S. Then, do you consider blisters and setons of no utility?

P. Allow me to explain, my dear sir. We use them after bleeding, and with the low diet, to destroy by revulsion the last remains of pulmonary irritation; and it is in this respect that we differ from the old physicians. Have you a chronic cough, that is to say, one of long standing, they prescribe asses' milk, *lichen islandicus*, and a blister, as specific means against that being consumption which threatens you. Without insisting on bleeding, and

the severity of low diet, they allow the inflammation to subsist; and when it has produced disorganization of the lungs, they tell you all these evils depended on pre-existing tubercles. They exclaim, "How is it possible to perform a cure, when you hold within yourself the inevitable cause of mortality." Preserve only the remembrance of this truth, ye men of the world, that these tubercles and ulcers of the lungs are the effect of a prolonged inflammation, that might have been with facility removed in the beginning: then you will no longer lie under a delusive security; you must have recourse to an early treatment to avoid phthisis pulmonalis.

S. Does the inflammation or irritation require a very considerable time to produce tubercles and ulcers?

P. This depends on temperament. The ravage is much slower in delicate subjects than in the robust. Every one ought to be acquainted with this difference, in order to take his precautions. I cannot here enter into a detail of those symptoms which denote incurability; it is enough for you to know that a cure may be looked for, when there still remains strength, a little *enbonpoint;* and that, in numerous instances, even purulent expectoration does not carry with it destruction.

S. If your system be fallacious, it is at least consoling. I adopt it in this particular; for I would rather admit that phthisis is the effect of inflammation, for a long time curable, than believe that all

delicate and narrow-chested subjects are condemned to perish, sooner or later, victims of this disorder; and I wish you success fully to justify your views on the subject.

P. This success we have obtained; we obtain it every day; and those families attended by physiological-physicians have as few consumptions as putrid or malignant fevers. We prevent all this when we are called in early, and our advice is followed.

S. You are really admirable, Messrs. Physiologists; and if you should possess the same power over apoplexy, I shall begin to give credit to your new system.

P. If we had not this command over the disease you now mention, our system would be fallacious, and I would dispense with your belief; but if you favour me with another conversation, I hope to demonstrate to you, that the physiological doctrine has torn off the veil that concealed the real character of apoplexy.

S. I shall be very much obliged to you; for I have always felt the greatest dread of this disease.

DIALOGUE IV.

APOPLEXY.

SAVANT. Now for it: give me your opinion of apoplexy. Have you the means, I do not say to cure it constantly, since it is often mortal in a few minutes, but only to prevent it? It is attributed to a too large quantity of blood. I have seen many persons, who were bled three or four times a-year, who drank only water, and lived moderately, and who nevertheless were struck by apoplexy.

PHYSICIAN. I readily believe it; but you do not add, that many of these persons lived with an habitual gastritis, maintained by cathartic pills, or salts; and notwithstanding their sobriety, never subjected themselves to sufficiently great and long-continued privations to complete the destruction of the irritation.

S. That may be; but would you cause death by starvation, for fear of generating a too large quantity of blood?

P. No, sir; but I could wish that a period of time was devoted to the cure of every species of irritation with which the human frame is attacked.

This success once obtained, the loss may be repaired by satisfying the appetite; and then a small share of temperance is sufficient to prevent a relapse.

S. Then you believe, that an habitual irritation of the stomach tends to apoplexy?

P. Yes, sir; I believe it, because experience has demonstrated it. I do not pretend that all apoplexies depend on this cause: the plenitude of the blood-vessels, or plethora, the violent passions, study, and meditation, are doubtless causes very capable of bringing forward this fatal evil; but these causes being known, all physicians recommend them to be avoided; whilst not one among these, prior to the physiological doctrine, made known to the public that they may labour under a slight inflammation of the stomach, capable of terminating in apoplexy.

S. And yet they recommend low diet.

P. Yes; but it was with the intention of preventing the excessive formation of blood, or, as they expressed themselves, a state of general irritation and heat. So little did they suspect the possibility of chronic inflammation of the stomach, in those with strength and an *embonpoint*, that they prescribed cathartics, to obviate plethora and the accumulation of blood in the head.

S. How! have not purgatives this property? Does not a glass of Seidlitz water, a dose of Epsom salts, or a laxative pill, relieve the head by

procuring a few motions? You are going to make me again fall out with your new doctrine.

P. I should regret exceedingly, sir, the loss of your confidence; I therefore entreat a moment's attention.

Cathartics, in acting as revulsives, in diverting the irritation and blood that always follows it, from the superior parts, produce a temporary relief, yet do not remove the cause of the pains in the head, stomach, or abdomen, but rather augment them; since cathartics cannot act otherwise than by irritating the point of inflammation that is the original cause of these pains. The public, who neither comprehend the structure nor the vital properties of the organs of which their frame is composed, only pay attention to the evacuation they have procured, nor have they any idea of the mechanism by which this effect is produced. Let them be informed, that it is by irritating the stomach and the intestinal canal, which is seven times the length of the individual, that purgatives produce their action, irritating these parts as tobacco irritates the mouth and nasal ducts. Have you ever remarked, whether a person who smokes tobacco, or takes snuff, blows his nose or spits less frequently since he has adopted this practice? On the contrary, does it not happen that these secretions are both augmented, in proportion to the use of this vegetable? Very well; the same thing takes place in the digestive canal: the more purges are taken, the more needful do they

become; and the stimulus of the cathartic is soon rendered as necessary as that of the tobacco. This proceeds well as long as the digestive organs are not much deranged; but if a portion of this long canal is attacked by inflammation, the cathartic becomes injurious, like the tobacco in inflammations of the mouth and nose. Have you not observed how smokers and snuff-takers suspend this usage, when they suffer from sore throat, or that inflammation of the nasal ducts, which we call *coryza*, especially when it is carried to a high degree? Well then; apply this observation, which ought to be familiar to you, to the digestive canal, and you will draw from it this natural conclusion: that purgatives are improper for those persons who suffer pain, inflammation, in a word, irritation of this organ.

S. Is the comparison quite correct? I have some difficulty in believing it; for I have often seen pains in the stomach and bowels effectually removed by purgatives.

P. The parity is exact in the two cases that I compare; and if you have seen irritation of the digestive canal carried off, without returning, by purgatives, it was where this was slight, or belonged to an accidental or temporary cause; such as a weak digestion, an accumulation of fæces: but when these irritations are very strong, or habitual, it is no longer the same. In the first of these two cases, purgatives aggravate, and from chronic the inflammation becomes acute; that which produces fevers,

of which we have already spoken. In the second, purgatives only palliate the disorder: it returns, and the purgatives re-appear also; but at the end of a certain time, these medicines having augmented the gravity and extent of the irritation of the digestive tube, can no longer even procure a momentary relief, and then they must be given up. Then apoplexy, hypochondriasis, obstinate vomitings, become dangerous; and most fortunate is the sufferer who escapes from such peril, if he obtain a cure after persevering in a diet for years; for often schirrus of the stomach, intestines, consumption, or dropsy are amongst its evil consequences.

S. You alarm me: I could fancy that I hear the actor in the comedy of Moliere*.

P. The difference between us is nevertheless very great; for M. Diafoirus only pronounced his threats, to determine his friends to take purgatives; whilst I repeat them in order to prevent the abuse of these medicines.

S. You are always in the right. But pray inform me how apoplexy is generated, since you do not attribute it to the abundance of blood.

P. Plethora, or superabundance of blood, alone never produces apoplexy. When there is an excess of blood, it accumulates in the organs that are most irritated, but does not rush of its own accord towards the brain. A multitude of persons are seen, who possess an *embonpoint*, short necks, and red

* Le Malade Imaginaire.

faces, and who proceed through a long career without suffering apoplexy. This disease is always the production of an irritation of the brain, and it is the last degree or stage of it. You know that this viscus is always in action. Independent of blows and falls, that may bear upon the *cranium*, erysipelas of the head, *coups de soleil*, and all those local causes that may excite its action, the brain acts powerfully in the exercise of thought, and it necessarily undergoes an active irritation in the study of the abstract sciences, the exercise of the memory, the transport of violent passions of whatever nature they may be; moreover, it is liable to receive a very active influence from those organs that are a prey to inflammation, and that which acts upon it with the greatest energy is the stomach. Whatever may be the cause that determines irritation in the brain, if this supports it long in a very high degree, it grows overheated, and sustains that accumulation of blood which we call congestion, and ends by a disorganization which produces apoplexy. This disorganization, always dependent on the same phenomenon, the irritation, is susceptible of many varieties. In many cases, the congestion is suddenly followed by the rupture of vessels, without antecedent phlegmasia; this is the case with apoplexies occasioned by blows, falls, paroxysms of rage, and other violent causes. Sometimes it is an inflammation of the membranes that envelop the brain, and penetrate into its anfractuosities, which produces an effusion of blood or serosity (serous matter), which

at length compresses and abolishes its functions, wholly or in part. At other times, the irritation acting on a portion of the pulpy substance of the brain, which we call *encephalus*, occasions there an inflammation that tumefies it, hardens it, in order to soften it afterwards by reducing it to pus; or which causes an overflow by an effusion of blood, more or less considerable, the result of which is always the loss of intellect, and the symptoms of apoplexy.

After these explications it will be easy for you to comprehend, that to prevent and cure apoplexy, two things are to be done; first, to prevent or to cure the irritation peculiar to the brain, by bleedings and the avoidance of all intellectual toil and passions; secondly, to combat the irritation of the other organs, either external or internal, which maintains that of the brain, or may tend to reproduce it, in case it has declined. It is therefore most important, never to allow the presence of phlegmasia in the digestive organs, in those persons who have already suffered from stunnings and pains in the head, and who in other respects are of a sanguine temperament.

S. You say nothing, then, of blisters and emetics?

P. Emetics are much more injurious than useful. The efforts they occasion accumulate the blood in the brain, and aggravate the evils. They can only cure by revulsion, in the milder apoplexies; but who dare depend on a like result, after having so often experienced the bad effects of such means, in cases of the least importance?

Blisters are improper in the first stage; their revulsive action is too slow, and can only be useful after copious bleedings, which ought to be at first general. Bleeding in the arm is advantageous, but opening the jugular vein or temporal artery is preferred. Bleeding in the foot, so very beneficial to those who are only threatened with the disorder, does not act with sufficient promptitude when the malady is declared. Leeches applied to the neck should succeed bleeding in the large vessels; the prolonged flow of blood from the application of leeches preventing a relapse. After the employment of such means we the have pediluvium, and the application of ice to the head. Finally, blisters find their place to maintain a point of permanent revulsion, which diverts from the brain the irritation that may renew congestion. During this interval, nature is at work to repair the disorganization that is made in the substance of the brain.

S. Then you are not afraid of the weakness which must be the result of so many bleedings?

P. The weakness is nothing, if the digestive organs have been attended to, because nutrition repairs the loss as soon as the use of food is resumed. But if these patients have been vomited, or purgative salts, drastic pills, stimulant beverages, as the infusion of arnica (a contemptible specific too much used in similar cases), have been profusely administered, or if they have been tormented by clysters of the emetic wine, they will be seen languishing, paralytic, and without appetite in their conva-

lescence. It will be very difficult to repair the digestion: they will remain stupid, cachectic, and will inevitably perish in a relapse. I have already stated to you, that gastritis may determine the attack of apoplexy; you see then, that after having destroyed the cerebral congestion, the most important point in the preservative, as in the curative treatment, is, to cure or to prevent the chronic inflammation of the organs of digestion.

S. You are continually speaking of these chronic inflammations of the digestive canal; it appears to me, that there is no question of these disorders in the authors I have read.

P. That I can easily believe, sir. Before our time they were quite unknown; but if you had read the work which I before named to you *(L'Histoire des Phlegmasies Chroniques)*, you would have an idea of them, and it would be advantageous to yourself, your family, and friends.

S. How is that?

P. It is, that although these disorders are very common, nobody, before the work was published which I have cited, possessed a clear idea of them, and every day they were exasperated by those who attempted their cure.

S. Shall I not intrude on your patience, in begging you to describe them to me?

P. Very far from it, sir. It is I who am afraid of tiring your patience by speaking so tediously on medicine.

S. Away with that apprehension; I have al-

ready told you I am fond of the science. At my age, one begins to make health a serious consideration. Besides, I have a family, and am consequently interested in the choice of a good physician. I have often had occasion to complain of mine, and this is one of the principal motives that have induced me to read medical books; proceed, then, and let us see what is the nature of chronic gastritis.

P. Since it is your desire, we will consider this in our next conversation.

DIALOGUE V.

GASTRITIS AND ENTERITIS CHRONIC, HYPOCHONDRIASIS, DYSENTERY.

SAVANT. I have often heard the term chronic gastritis pronounced in society, since the physiological doctrine has been in vogue; but my physician assures me that this malady is a chimera, and I have made no inquiries on the subject.

PHYSICIAN. You would have lost your labour. By the works of the founder of the physiological theory of medicine, we are acquainted with gastritis and chronic enteritis, of which I gave you a mere outline when speaking of the infirmities that precede and often cause apoplexies. I am about to elucidate these to you, in a way more clearly expressed.

He who digests his food with difficulty, although he has still sufficient appetite, or even possesses more than usual; who experiences a burning heat at the region of the stomach, rumination, eructations, flatulence, a flushing of the countenance, or who complains of pain in the head two or three hours after his meals; who feels at the same time pains more or less violent at the pit of the stomach, and

under the false ribs on either side, situations that we call hypochondria, who experiences often an internal heat, a sense of fatigue, and even slight febrile disposition, is attacked by a chronic gastritis. I will say more: nearly the whole of those who digest with difficulty, whose stomachs before possessed much energy, become capricious, and require to be coaxed with certain aliments; they who are obliged to attend continually to the stomach; they who are unable to support hunger, contrary to habit, without suffering acute pain; they who are obliged to walk or drink to assist digestion; they who pass restless nights, with troubled dreams, and awake with a foulness of the mouth, the limbs fatigued, a heaviness of the head; nearly the whole of these individuals, I dare assert, are labouring under chronic gastritis.

S. This disorder, then, is one of the most common that exists; for I know very few persons who do not experience some of the derangements you have pointed out. Are these the only indications of this affection?

P. If persons affected in this manner are examined with attention, the tongue will in general be found red or white, with scarlet spots, and large reddened papillæ, near its base; sore throat; heat and dryness of the gullet; the *tunica conjunctiva*, or the white of the eyes, tarnished and tinged with red; the cheeks coloured by a shade of deep red, and sometimes maculated and livid; the lips dried, with an inflamed fiery appearance in the interior, and

upon the gums. Persons thus affected complain of a loss of strength, of inability to support either fatigue or intellectual toil; they have at times an aversion for things they were most fond of; sadness, bad humour; nor can they divest themselves of the most fatal apprehensions, and are often tormented by a desire to commit suicide. Their *embonpoint*, for a considerable time compatible with this state, at length diminishes, their appetite is lost, and they are threatened with consumption, or subject to the attack of violent fever, which too frequently assumes the character of some one of those on which we have already conversed.

S. What do I hear! That is the description of a disease with which my wife was tormented for upwards of five years. Go on, I beseech you.

P. He who feels a burning heat in the centre of the abdomen, around the umbilicus, or a constant pain, more or less acute, and often extended to the shoulders; who is affected by occasional indistinct pains in either hypochondrium, sense of uneasiness, or perhaps only a disagreeable itching, or a sense of pricking on the skin, sometimes in one part of the abdomen, sometimes in another; who is tormented by wind, that painfully distends his intestines, and only escapes from thence with much difficulty; who is habitually costive, but discharges sometimes by a kind of diarrhœa, preceded by long and violent gripings, diffluent or concrete mucus, resembling a kind of membrane; this person is labouring under a slow inflammation of the small in-

testines, a malady that we call gastro-enteritis. If his appetite still continues, and his first digestion is accomplished without pain, the disease is simple; if the symptoms of chronic gastritis are associated with those of enteritis, these disorders become complicated; and it is proper you should know, that one produces the other, and that they may bring about inflammatory fevers, consumption, and dropsy.

S. I remember having observed all the symptoms you have just enumerated in the child of one of my friends, six years old. He died of consumption, attended by a fever prolonged and violent; the abdomen was distended, filled with indurated tumours, and at last with water. Nevertheless, he possessed to the last a very great appetite. The physicians declared he died of jabes, a disease attributed to obstruction of the glands of the mesentery.

P. It is exactly so. The internal surface of the intestines grows red, and becomes tender to the touch; it inflames, and the surrounding glands swell, as you have seen happen in sore throats; it is this that constitutes the jabes, or atrophy of authors, a disease which attacks adults as well as children.

S. Then this disorder does not commence by the obstruction of the glands, as the old physicians have asserted?

P. No, sir; they have here mistaken the effect for the cause, as in phthisis pulmonalis, because they were unacquainted with the signs of inflammation of the internal surface of the intestinal canal.

S. These are, then, what are called obstructions of the abdomen, or of the mesentery?

P. Certainly; but these are not the only chronic obstructions which are produced by the inflammation of the digestive canal. In that of the stomach, the membrane which lines its interior proceeds to ulceration, the coats of this sort of sack, or sack-like organ, thicken, and become hardened; and it is this which constitutes *schirrus* and *cancer* of this viscus. When it is situated at the aperture called the *pylorus*, or door-keeper, through which food should pass into the intestines, it obstructs the passage, and produces an incurable vomiting. When situated in other regions of the stomach the patient may live longer, but his sufferings are very great, and it always terminates in a state of consumption. If the inflammation long predominates in the superior intestine called the *duodenum*, or a little anterior to the small intestines, the liver partakes of the disorder; it tumefies, grows painful, and constitutes what is called *obstruction of the liver*.

S. And you would induce me to believe, that disorders so evident and palpable were unknown to the ancients?

P. The symptoms and derangements were known, but they were not accurately appreciated. The tumefaction of the glands of the mesentery and of the liver were attributed to the viscosity of the lymph, and the difficulty of its passage through those textures;

and they hoped to remedy this by giving stimulants, under the specious designations of *aperients*, *resolvents*, *deobstruents*. They were intended to remove these obstructions; but, instead of fulfilling the intentions of physicians, produced a quite contrary effect; because, in augmenting the inflammation of the internal surface of the stomach and intestines, they added to the cause which had occasioned what were called obstructions; and this twofold exasperation produced, with more rapidity, the destruction of the viscera, and consequently of the patient.

S. Good God! is it possible that such errors have been committed by Hippocrates, Galen, and all the great men who have rendered illustrious the art of healing, from the revival of literature to the present time? If such be the fact, medicine could never have been a real science, but a confused jumble, composed of practice more or less ridiculous and hurtful.

P. If the enormity of the fact renders it difficult to be credited, it does not make it impossible. Hereafter I will explain to you the cause of all these errors; but first I ought to complete the history of chronic phlegmasiæ of the digestive canal.

S. With all my heart; but I should apprize you, that the terrible accusation you have made against the ancient system of medicine will render me very particular about the proofs of your assertion.

P. These, sir, will be the result of the success of the preservative treatment; for I hope you do not expect me to furnish you with the means of curing

such frightful disorganizations, as are those of which I have already presented you with the picture?

S. Certainly not. The public are lulled by the illusion, that it is possible to resolve schirrosities of the intestines; but if success is unattainable on the exterior of the body, how can this be obtained when seated in the viscera? There remains then a surgical operation. I can easily conceive that a patient, affected by a large cancerous substance, ulcerated, or even gangrenous, on the surface of the body, may be freed from this dangerous burthen by the knife or cautery, but how apply the like operation to the stomach, intestines, liver, when they have attained the same degree of alteration? Life may still be preserved with the loss of an arm, a breast, an eye, but ceases on the amputation or cauterization of the viscera. I shall feel satisfied if, to prevent these frightful disorganizations, you possess means more efficacious than those which have been employed up to the present time.

P. These will be found, sir, in the anti-phlogistics. To him who labours under a chronic gastritis we prescribe bleedings on the region of the stomach; water or refreshing ptisans for common drink; we cautiously abstain from the use of those medicines called stomachics, tonics, digestives, corroborants. If there should exist fever or vomitings, or the digestion is attended with much pain, we withhold food for a time more or less limited; afterwards we seek to give strength to the patient, without exasperating inflammation, by aliments the mildest in their nature, such

as milk, the lightest farinas, the emollient vegetables, white meat; and we conduct the patient by degrees back to his habitual regimen.

S. Stop. You have almost converted me already. My afflicted wife was a long time tormented by bitters, tonics, wine, cinchona, the strongest kinds of meat, and mineral waters. Her emaciation was extreme; her sufferings were general; she vomited without exception every thing she took. I considered her case hopeless, when she was restored to me by a circumstance which I conceived would have wielded the mortal blow. She, whose unalterable serenity you know, became on a sudden irritable, furious, and seemed to lose her mental faculties; in her ravings she manifested an insurmountable aversion for doctors and drugs. She went farther; she repulsed her husband, her children, all she held the most dear, declaring that she was dead, and that she ought no longer to take food. Three entire days and nights passed before she would consent to take the least thing. The vomitings had ceased; but, tormented by a violent thirst, she consented to drink water, and during the space of more than twenty days and nights she refused every thing except this. She passed her days motionless, silent, in darkness, assuming the position of a corpse laid out, repulsing all her family, except one of her daughters. At the instigation of her physician, I wished to substitute milk or broth for her favourite beverage. This fraud excited her rage; and from that moment, she only consented to accept the water from the

hands of her daughter, whom she considered incapable of deceiving her. Her weakness grew extreme, and I believed her in the agonies of death, when she recovered her mental faculties. We offered her nourishment, of which she would only take milk, and found herself so well, that for the space of three months she lived on this beverage alone, earnestly supplicating that she might not be constrained in her choice. I had ranged this fact amongst the number of those rare and inexplicable cases that prove nothing; but I perceive it associates itself with your theory, and if the remainder corresponds I shall very soon be one of your disciples.

P. This cure, which appears to you so singular, is very far from being without examples. A Roman general*, on the brink of death from the progress of a dropsy, was cured by forming the resolution of dying of hunger. Physicians have often experienced the mortification of seeing their patients recovered, whom they had abandoned, by nurses or old women, who only gave them to drink simple aqueous beverages. One amongst others, to my own knowledge, performed extraordinary cures in chronic disorders of the digestive canal, by nourishing the sick with small portions of bread, soaked in spring water; but she added to this frequent clysters, which she could very well have done without. Many an unfortunate person, exhausted by gastritis, has obtained a cure by restricting himself to the use of women's or any other milk for his whole nourishment: but milk

* Caius Sempronius.

does not agree with all stomachs. Instances of this kind were not unknown to physicians; but they, like you, drew no inference, and persisted in poisoning their patients with their drugs. The same fact existed with respect to the yellow fever; although practitioners well knew that mulatto women were in the habit of curing this disease with lemonade administered in drinks, and clysters, and frictions made on the whole body with slices of lemon; while medical men unceasingly gorge their patients with cinchona and spirituous liquors. In the present day the whole is much changed. There is no cure by charlatans, housewives, or witches, however extraordinary it may appear, not excepting the lately celebrated cure performed by the priest of Vauchassis *, that does not associate with the principles of the physiological doctrine. But this is not the time to explain all this; and I am about to terminate what I have yet to say on the treatment of chronic inflammations of the digestive canal.

S. I beg your pardon: inform me, if you can, why my wife, in the first stage, was relieved by tonics; why she became deranged, and why her chronic gastritis has not produced scirrhus of the pylorus, or of some other portion of the stomach.

P. Sir, you will be answered if you allow me to continue my observations. In the commencement of chronic irritations of the stomach, which are not elevated to a degree of inflammation, the stomach has not lost its aptitude of being agreeably affected by aliments

* Vauchassis, in Switzerland.

and tonics, and of accomplishing digestion. It is not heated in a way to become painful until nearly the conclusion of digestion, two or three hours after the meal; and when the operation is terminated it becomes calm again. If at this period stimulants are prescribed, such as strong wine and succulent meat, the stomach receives these well, and the impression made upon it diminishes for a while its sufferings. The pains that were felt are disguised for a short time, by a sensation of force and comfort; but at the end of this time, the irritation having assumed a fresh augmentation, the organ refuses all food, the pains increase, and the patient begins to decline. Emetics, cathartics, mineral waters, also suspend for some time the sufferings of this portion of the viscera, by directly evacuating, or by transferring to the skin the humours which the irritation has accumulated in the interior; but these remedies act as tonics, and ultimately augment the irritation that they had momentarily calmed; which rises to the degree of inflammation, and the digestion totally ceases.

The suspension of the sufferings of the stomach is still very easy to be produced when it is only irritated in one point of its extension; for the healthy part, agreeably affected by stimulants, produces a sensation of pleasure, which causes the pain of the diseased part to be forgotten. However, this last is very soon endued with increased sensibility; it becomes more inflamed, the irritation is communicated to the whole, and we arrive here at the same

consequences, as I have just shown you. Such are the causes by which tonics produce a temporary relief.

Mental alienation is dependent on the influence of the irritated stomach over the brain. All those who have an habitual disordered stomach, have, at the lapse of a certain time, the intellectual faculties more or less disturbed. They are restless, and imagine they suffer a variety of disorders; they are called hypochondriacs. There is but one degree between this state and that of insanity; your wife surmounted it, though this species of madness is cured with the cause that produced it.

As to schirrous affections, they are only provoked by the extreme prolongation of the chronic inflammation of the stomach, and with more facility in lymphatic subjects. But we are possessed of facts that confirm the assurance, that by a rigid perseverance in the emollient regimen, success is obtained over schirrus, or even ulcerated cancer of the intestines, provided the ravage is not too extensive, nor communicated to several organs.

S. These are matters really interesting, of which I had not the least idea. The dread of cancer, phthisis pulmonalis, and malignant fever, beset me continually. I imagined these disorders could pounce on a sudden, like a bird of prey, upon an unfortunate being, in spite of the precautions of bleeding, cauterizing remedies, and diet the most rigid. I knew not that these diseases were the

result of neglected inflammations, and that there is, on most occasions, time to preserve ourselves from their influence.

P. Yes, nothing can be more certain. But allow me to converse with you on dysentery; for it naturally follows gastritis and enteritis.

S. You have said nothing concerning the treatment of this last.

P. Because it does not differ from the treatment of gastritis, except that the application of leeches ought to be made on the lower region of the abdomen. In either respect, the diet is absolutely the same; the sick digest better, I confess, than in gastritis; but if the appetite is satisfied, the produce of digestion, reaching the inflamed and ulcerated surface of the intestines, renews the mischief, and prevents the cure. There may even result from this a gastritis consecutive, which infinitely augments the difficulty of the cure. The treatment of inflammation of the small intestines does not then differ from that of gastritis. In one, as in the other, it is often necessary to persevere for several years; for diseases are liable to relapse, if the sick return too hastily to irritating food, such as mutton, beef, game, pastry, salt-meat, stews, all spiced dishes, and fermented liquors. This description of patients must be encouraged, and persuaded that their perseverance will enable them to triumph over all obstacles. They accustom themselves to the emollient regimen, support it well, and find in it sufficient nourishment to

keep their *embonpoint;* for the farinaceous substances, such as bread, rice, vermicelli, *semoule* *, tapioca, sago, salep, and the white meats, such as fowl, fish, lamb, veal, contain a very large quantity of alimentary matter. These patients may be allowed the soft vegetables, when they have the stomach heated, and are neither subject to flatulence nor diarrhœa; in this case, dissolving fruit is still more efficacious, whilst milk should never be prescribed, but for those who digest it without inconvenience. Gentle exercise in the open air is very beneficial. Many of these patients can only digest their food in the country; the air of large towns developes in the stomach an irritation which removes the appetite, and the assimilating power. Physicians, however, should be forewarned, that violent or long protracted exercises on horseback, or where the trot of the horse is rough, communicate a jolting, which exasperates the sensibility of the stomach.

Those persons who are attacked by chronic gastritis or enteritis should abstain from the use of all medicines: the mineral waters that are generally recommended, only relieve where the disorder is mild and partial, operating by revulsion, in exciting a flow of urine, perspiration, stools, or hemorrhages; but in the majority of cases only effect a palliative cure, and after a certain number of relapses can be no longer supported. The milder saline waters are preferred,

* A grain prepared from a paste made of the finest wheat flour.

particularly the gaseous. The sulphurous in general exasperate the chronic phlegmasia of the digestive canal. The air of the mountains, exercise, and change of scenery, are often more beneficial than the use of the waters. The beverage proper in maladies of this description is weak lemonade, for those who have a heat in the gastric channels; they with whom this may disagree, will do well to substitute sugared water, decoction of the herb dogs-grass, or infusion of liquorice, and other preparations of a like virtue; spring water is sometimes the best of all remedies; you know the benefit your wife derived from it. In chronic gastritis of the highest degree of sensibility, it is well to confine patients to the use of this beverage only, and there let them remain, if it is remarked that they preserve their strength and recover, until the appetite for gelatinous, feculent, and lacteal food becomes pronounced. For the rest, it belongs to the skilful physician physiologist to determine the case where any of these means indicated may be employed in preference to another. I have therefore only aspired at tracing you a general plan of treatment of chronic phlegmasia of the digestive canal.

S. I thank you for all these details. Speak now on dysentery; it is one of the scourges of the human race; every year it makes great havoc in the country, towards the autumnal season; it desolates besieged towns, and depopulates whole provinces, in times of famine. It is even affirmed, that in our expeditions to Italy and Egypt, this disease carried

off more men from around our standards, than the fire and sword of the enemy. I am curious to know your opinion of it.

P. Dysenteries, whatever be their varieties reputed to exist, are but the inflammation of the last portion of the intestinal canal, which serves as a temporary *depot* for the fæcal matter. Their nature was well understood by physicians, since Pinel considered them as mucous phlegmasiæ; but the treatment employed was bad. The founder of the physiological practice of medicine has reduced it to a few invariable principles; and dysentery, that once most formidable scourge, is now a disease the most benign and easy to cure.

S. Is it possible! Can your professor have accomplished more than Zimmerman did, who is, I think, the classic author on dysentery?

P. Yes, sir; and the work of Zimmerman is now obsolete. In twenty-four hours we stop the dysentery by leeches applied to the anus, and sometimes on the lower regions of the abdomen, combined with regimen, and rice water rendered mucilaginous by gum, for the ordinary drink.

S. Then you neither direct me to vomit with ipecacuanha, nor purge to evacuate the load of putridity that fills the *prima via?*

P. If some patients, affected in a slight degree, are cured by this method, the majority are far from being relieved; whilst our treatment admits of no danger, and constantly succeeds.

S. And tonics and astringents, so necessary to

give tone to the body after the inflammation is calmed, do you hold them of no value?

P. We have recourse to opium if the diarrhœa continues, but in most cases this aid is unnecessary; a little rice, some feculent substances, and small quantities of wine, when the inflammation is calmed, almost always suffice to complete the cure.

S. And those diarrhœas which exhaust patients, are they likewise inflammatory?

P. Certainly, sir; their treatment differs in no respect from the preceding, and the success is the same.

S. If I were thoroughly convinced of what you now tell me, I should have a high opinion of your doctrine. To make the dysentery a disease simple and easy to cure, is in reality to be the benefactor of the human race, and I may excuse your enthusiasm for the new professor you have selected; but I am not easy to be satisfied. I have read in the work of Zimmerman, that putrid fever often accompanies dysentery, and that both depend on a seat of corruption existing in the prima via; hence arises the utility of cathartics in both diseases. Have you nothing then to oppose to this complication, but leeches to the anus, and ptisans of rice?

P. The putrid fever, like all the essential fevers of authors, is the inflammation of the superior regions of the digestive canal; this I have proved to you. The dysentery is an inflammation of the inferior region; be pleased then to recollect what I before told you concerning essential fevers and their treatment,

and you will draw the conclusion yourself, that, when the inflammations of the stomach and intestines are combined, the local bleeding should be applied to the epigastrium, the abdomen, and anus. If this practice had always been pursued, the epidemic dysentery would never have been so fatal; for it only became so by a bad treatment, that added gastritis, gastro-enteritis, and their consequences, to the dysenteric inflammation, which we call colitis, from its being seated in the intestine named the *colon*.

S. I am now satisfied on this point. You have informed me how gastritis, enteritis, and dysenteries are cured; can you likewise tell me how we are best preserved from their influence?

P. This question is precisely that of their causes; for we only preserve ourselves from a disease by removing the causes that produce it; and to remove these, we must be acquainted with them. Inflammation of the internal coat of the digestive canal, almost always depends on a nourishment too exciting.

S. Oh! for once you proceed too far. My wife, in whose case you recognized a gastritis, had never to reproach herself with any intemperance; she always lived with great moderation; and it was at the time she enjoyed the most blooming health, that the functions of the stomach became deranged.

P. If, sir, you had not interrupted me, I should have told you, that the affections of the mind, such as anger, anxiety, sadness, and the sudden variation of the temperature of the atmosphere, may certainly,

at times, determine all at once and without other influence, acute gastritis, and gastro-enteritis; but these causes prepare only the chronic state. In fact, all these causes have the property of rendering the stomach and intestines much more irritable than they were before. Now, if in this state, which has occurred on a sudden, the individual should think proper to take the same food as the day before, the stomach can no longer support it; it contracts an irritation; and if this treatment is persevered in, it advances to an inflammatory state. If this is acute, a fever or dysentery is the consequence; if it is slow, and not strongly characterized, it changes at length into chronic gastritis, enteritis, and diarrhœa. From thence arises the necessity of diminishing food on every occasion, on experiencing some unusual commotion, be it physical or moral, and of waiting for an entire recovery, before the accustomed manner of living is resumed. Such is the art of preserving ourselves from disorders of the digestive canal.

S. I am not certain that you are right; but I remark indeed, that very few persons take the like precautions.

P. They do precisely the contrary. If there is a want of appetite, they seek to excite it by more savoury food. Is the digestion grown languid, their stomachs are stimulated by generous wines, elixirs, bitters; or an emetic is taken, followed by other medicines. According to what I have told you concerning the principles of the treatment of diseases of the stomach and intestines, you ought to

conceive, that such conduct is more calculated to provoke than to prevent similar diseases.

S. That may be; but when we feel weak, it is but natural to seek to strengthen ourselves.

P. Yes, sir; but a sick person is not strengthened by the same means as a healthy person. Tonics are useful to those who want necessary nourishment, and to some persons exhausted by evacuations, or who have a paucity of blood, or are naturally lymphatic. Their digestion may fail for want of energy, and tonics restore it. In all other cases it is abstinence, and the repose of the organs, that repair the weakened powers, and stop the progress of an incipient disease.

S. Have the disorders of the digestive channels no other causes?

P. Yes, they have. The state of pregnancy, accouchement, blows, wounds, the surgical operations, &c., may also convey the irritation to these organs; but the development of these causes, as well as some others of which I have not yet spoken to you, would lead me beyond the boundary prescribed.

S. I can conceive it, and I do not require from you a treatise on medicine. Yet I have still some difficulties to propose to you. Will you promise me an interview for to-morrow?

P. With pleasure, sir, since I see that your prejudices do not prevent your relishing the truths of our doctrine.

DIALOGUE VI.

PERITONITIS.

SAVANT. I told you yesterday, I had still some doubts on the diseases of which you have spoken to me. You have called febrile disordered stomachs, dysenteries, bilious, putrid, malignant pituitous and ardent fevers, and even the plague, acute inflammations of the stomach; you have laid down indigestions, habitual disordered stomachs, pyrosis, hypochondriasis, and diarrhœa, as chronic or slow inflammations of the same organs; always assuring me, that authors who have preceded you have not understood the real character of these disorders. Yet I perfectly remember having read in various works on medicine, the description of what these authors called "*inflammations du bas ventre;*" now the abdomen, in great part, contains the stomach and intestines; therefore the inflammation of these organs was known.

PHYSICIAN. Can you remember the symptoms of these inflammations of the lower belly, which you have found in your authors?

S. The impression they made on me was suffi-

cient to enable me to recollect them. Pain very acute in the entire region of the abdomen, augmenting on the least pressure, vomiting, ardent fever, these are the symptoms; and these inflammations, as it is asserted by authors, are most frequently beyond the reach of art; while you flatter yourselves, that you can arrest gastritis from the very first days of its appearance.

P. The disease you have just pointed out is what we call *peritonitis*.

S. I recollect having seen this term in the nosography of Pinel.

P. You may have seen it in most classificators of diseases, or in the nosologists who have preceded them.

S. Be it so; but in what respect does this disease differ from your gastro-enteritis?

P. In the circumstance of the inflammation being seated in the external surface of the digestive canal, instead of occupying its internal surface, as it does in gastro-enteritis.

S. How! can these intestines, that are so thin, be susceptible of experiencing on one of their surfaces an inflammation of which the other does not partake?

P. Yes, sir. The stomach and intestines are suspended in the cavity of the abdomen; they have an internal surface lined by the continuation of the membrane that you see in the mouth, and which, after having spread over their whole length, terminates at the extremity of the *rectum*. It is upon

this internal surface that the food is received and digested; it also contains the residue, to the time of its expulsion, which we call *defecation*. The membrane which constitutes this surface is named *mucous*, and the inflammations to which this membrane is subject, compose all the fevers of authors, and the other diseases to which I have called your attention; as for the other surface that presents itself to the eye as soon as the body of an animal is opened, the membrane that constitutes it, and which appears smooth, transparent, slippery, is called *peritoneum*. It is not confined to the digestive canal, but spreads over the liver, spleen, and all the other viscera of the abdomen, such as the uterus, the urinary bladder, and even the interior of the muscular sides of the abdomen. The oily humidity with which this membrane is covered, gives it the property of facilitating the movement of the viscera that are suspended in the cavity of the abdomen, and subject to continual frictions. As this membrane is insensible in its natural state, those frictions are not painful, and we are unconscious of them; but this membrane may contract inflammation; then the whole is deranged: from slippery, thin, transparent, as it was, it becomes red, thickened, covered with asperities; the extreme sensibility that is developed causes scorching, lacerating, and as it were twisting pains, which renders impossible every kind of motion. The abdomen becomes immoveable; the respiration is now effected by the movement of the chest alone. Sneezing and cough are insupportable; the defecation no longer

takes place, and whatever is swallowed is rejected by vomitings, attended by excruciating pains, of which none but these patients can have an idea. If the hand is applied to the abdomen, it is found hot, tense, contracted, and on the slightest degree of pressure the pains are greatly aggravated. It often happens that patients cannot support the motion caused on the floor of their chamber by the steps of attendants. Add to all these calamities a violent fever, uneasiness, insomnolency the most painful, convulsive shakings, and you will have the description of the inflammation of the peritoneum, a malady much less frequent than gastritis or enteritis, and which is almost always fatal, if due advantage is not taken of the first hours of its invasion, to destroy the inflammatory action.

S. What are the causes of this disease?

P. The action of cold, blows, falls upon the abdomen, the transferring to that part of another inflammation. As that of the internal surface of the stomach, and still oftener of the intestines traversing the boundaries of these organs, spreads itself over the portion of the peritoneum which covers them, and is afterwards propagated on the whole surface of this membrane, it substitutes, in a very few minutes, peritonitis for enteritis. It is by a similar mechanism, that peritonitis, as a consequence of childbirth is produced. In truth, the uterus always experiences after delivery the effects of the detachment of the fœtus and placenta, an inflammation of which the lochii are the natural discharge; but sometimes

this inflammation, instead of being confined to the internal membrane of the uterus, traverses this viscus, and reaches the peritoneal surface. This incident is the most formidable; the practitioner is convinced of its presence, by the fever, pain, elevation and hardness of the lower region of the abdomen, the dryness of the skin, suppression of the lacteal secretion, lochii, and perspiration; and if the progress of the inflammation is not arrested, all those other symptoms of which I have spoken, hasten to characterize the disease. Inflammation primitively developed in the liver, spleen, kidneys, bladder, may also proceed to peritonitis, but this mode of propagation is considerably less frequent than the two preceding instances enumerated.

S. It is then to peritonitis we must attribute those violent and fatal terminations of women after labour, of which we continually hear reports?

P. Women, after childbirth, may suffer all the other inflammations, but peritonitis is the most dangerous; and the majority of the fatal catastrophes of which you make mention, depend on this painful affection.

S. Is it not this disorder which authors designate by the expression, *puerperal fever?*

P. This name has been given to all the acute diseases attendant on childbirth; but now the majority of practitioners, who still make use of this denomination, much too vague, only apply it to inflammations of the uterus and peritoneum.

S. Many persons attribute this abdominal in-

flammation attendant on labour, to the removal of milk or the suppression of the lochial discharge. What do you think of this opinion ?

P. That they have mistaken the effect for the cause. Milk is not a humour capable of producing inflammation ; besides, this secretion is not, any more than the bile or the lochial discharge, a living being, endowed with a will, caprice, and free to abandon the breast of a woman to rush furiously on the abdomen. This liquid is secreted by the glands of the mammæ ; but should it develop itself elsewhere, in the peritoneum, for example, a too active irritation, the lacteal secretion is suspended, and the small quantity of milk that is already formed re-enters the blood ; whence it soon escapes by perspiration or urine ; and no other milk is prepared, until the disturbing irritation ceases.

It is the same with the lochial discharges. From the moment they cease to be sanguineous, they are nothing more than a purulent secretion of the wound left by the detachment of the placenta and the membranes of the fœtus. This suppuration, which serves at the same time to free the uterus, ought to diminish, grow thicker, and ultimately dry up, like all other well-conditioned sores. But if the inflammation that furnishes it, instead of being superficial, and diminishing by degrees, is exasperated, it traverses the coats of the uterus, and arrives at the peritoneum ; the lochial discharge will be suspended, as well as the secretion of milk, and all the other evacuations.

S. But what can cause this inflammation to reach

the peritoneum, which you say exists in the uterus after labour?

P. Cold may be sufficient to cause it; therefore it is more frequent in winter; but very often, anger, and other violent passions of the mind, strong broths, exciting aliments, wine, and various other incendiary preparations, belong to the causes of puerperal peritonitis. The milk, and the lochial discharge, are passive in this malady.

S. Nevertheless it is affirmed, that considerable quantities of milk have been found in the abdomen of women who died in consequence of childbirth.

P. The inflamed peritoneum suppurates as do all other textures, but this membrane is a sack without an opening; so that the pus that is formed therein, when the inflammation has not been removed, accumulates in a very large quantity. It is this pus that has been taken for milk, because it has often the consistence and colour of it. You will perceive the folly of this opinion when you are informed, that peritonitis in men as well as in women presents this pretended milk, and that it often makes its appearance in both sexes: instead of being white and cream-like, the matter of peritonitis is serous, of a lemon colour, reddish, streaked with blood, or even sometimes turned to a membranous concretion.

S. You do not then prescribe anti-lacteals to women in childbed, attacked by peritonitis?

P. Formerly, repeated vomits and purgatives were administered, with the intention of opening a

channel for the milk, bile, and humours of every description, which were supposed to be in motion in order to rush down on the abdomen. Many physicians, followers of the ancient system, are still in the habit of pursuing this treatment; but, enlightened by the physiological doctrine, the well-informed practitioners have observed, that the mortality of women in childbed, so remarkable for a long time, was the effect alone of this vicious practice. If peritonitis attack a man, woman, or child, the treatment is always the same. It is an inflammation that must be speedily arrested: this is so much the more necessary, because the matter that is formed can find no outlet. A successful cure is obtained by covering the abdomen with leeches, and by withdrawing all nourishment, and prohibiting every kind of motion; but assistance must be called in on the first day, to obtain this result, as this malady is very often mortal on the third day; and even later all hopes of a favourable termination are not wholly lost, when the disease is moderate, yet this is very doubtful; and when by exertion the patient is snatched from the jaws of death, there remains often in the peritoneum a collection of pus, that requires a particular treatment.

Some physicians recommend in puerperal peritonitis, that could not be arrested by leeches, the use of calomel. It operates by purging and causing a salivation. This plan appears the best, where a woman is too weak to support bleedings. Some

successful cases may have recommended this practice, which is a real revulsion, but it does not always prevent the formation of matter in the peritoneum.

We are sometimes even obliged to perform the operation of tapping to diminish the quantity of the fluid effused. This class of patients may be cured after a very long period, under the direction of a physician-physiologist; but if they are untractable, or confided to the care of an infatuated doctor of the old school, who thinks of nothing but of the evacuation of the effused fluid, continues obstinately to purge, sweat, or provoke a discharge of urine, the patients will invariably fall into a state of languor, become completely dropsical, and almost always prematurely terminate their career. You may judge, in consequence of this, how important it is to have a clear idea of peritonitis, to be enabled to form a decision, as soon as the first symptoms of the inflammation are manifested.

S. Indeed, I am thoroughly convinced of these truths, and I have to thank you for bringing them to my notice; for I now perceive that the public have no just idea whatever of this malady.

P. Add, that it is not yet sufficiently understood by physicians. Many mistake it for colic, during the first hours of its attack, and allow it to pass the favourable moment for its removal; they even often exasperate it by potions made up of opium or æther, which they call palliatives, and which are neither

more nor less than strongly irritating; finally, there are some who fail to recognize it, until it has arrived at its highest degree of intensity. Again, for physicians who are acquainted with it, this complaint has served and still serves as an obstacle to the propagation of the physiological doctrine, because many amongst them consider it as an exclusive type of inflammation of the abdomen or lower belly, and will not acknowledge an inflammation there where they do not discover its characteristics. Inform them, that a feverish patient is attacked by gastritis or enteritis; they touch him, and if the forcible pressure they apply does not excite very acute pain, they assure you there exists no inflammation; they talk to you of the bile, the nerves, weakness, or putridity, and their treatment is founded on these false indications. It is therefore very important to show to all enlightened persons, whatever may be their rank or profession, that very often the inflammation of the internal surface of the digestive organs is not painful; that the permanent pains, augmenting on pressure, belong to the inflammation of their peritoneal or external surface; that loss of appetite, thirst, parched heat of the gullet, the acrid heat on the skin, obtuse pains of the limbs, and pains in the head, are at all times sufficient to verify gastritis and enteritis; and for this twofold cause it is perfectly useless to torment the sick by forcibly pressing the abdomen, to discover a painful point that does not exist.

S. Very well; I form an idea of the manner in which you consider inflammations of the principal viscera. Let us proceed to disorders of the extremities. You have promised to speak to me on the gout. How do you consider it?

P. I will give you this information at our next interview.

DIALOGUE VII.

GOUT AND RHEUMATISM.

SAVANT. Welcome, my dear doctor. You have promised to speak to day on the gout. I am impatient to hear you; for, after much consideration, I cannot think how you will proceed, in order to class the gout in the same line with all the diseases of which you have given me the history.

PHYSICIAN. The gout, after having been considered as an acrid humour, as the result of the decomposition of the bones, as wind, as a nervous disorder, as a gross thick humour produced by a suppressed perspiration, and which should for the greatest advantage of the patient be ejected by means of the articulations, has been definitely placed by authors amongst the number of inflammations. This is the way in which it was classed in the schools of Paris, before the epoch of the physiological doctrine.

S. Are you of this opinion?

P. Yes, sir.

S. If so, you have nothing to change in the theory of this disease?

P. Pardon me, sir. The founder of the physiological doctrine has removed the inconsequences and contradictions of authors, who, while considering the articular affection as a phlegmasia, treated it as if it was of a quite contrary nature, and considered its concomitants as nervous or humoral phenomena, or as the produce of weakness.

S. I do not understand what you mean.

P. You shall understand it: I say then, that authors did not treat the gout as an inflammation, because they did not encounter it by local bleedings, sufficiently multiplied to destroy it entirely. They wished it to run through all its stages, and left their patients to suffer for months and years.

S. And whence proceeds this inconclusiveness?

P. It is because, in changing entirely the denomination of the gout, the moderns have not changed the ground-work of its theory. If the gout was no longer a morbid humour, *sui generis*, it was at least a special being, that possessed of inflammation nothing but the name, in order to be admitted in the nosological classification, but which ought on all occasions to be considered as an extraordinary being, and treated as such. In fact, said the ancients, the gout is a humour of which nature relieves herself by the articulations; let us then be cautious how we interfere with this salutary operation. The moderns have said in their turn, the gout is an inflammation, that must be respected, for

fear of worse consequences that may intervene. You observe that they have done no more than change the denomination.

S. And the incidents of gout?

P. They are visceral irritations exactly similar to those that are independent of this disease, irritations and inflammations of the brain, lungs, gastric channels, liver, kidneys, urinary bladder, &c. The ancients saw here the transfer of the gouty humour, or the production of weakness, and pretended to remedy it by depuratives, antispasmodics, and tonics. The moderns, forgetting that the gout is an inflammation, tell you, that the attendant injuries require the same curative means as recommended by the ancients; but all these means are irritating; they augment the evil instead of diminishing it; so that after having very improperly treated, as did the ancients, the articular inflammation, the moderns exasperated, as well as they, the irritation of the internal organs, that accompanies this disease.

S. You would wish us then to pursue the gout by leeches, in whatever part it seeks refuge, and that gouty subjects be placed under the refrigerant and debilitating regimen, like those who have inflammatory affections of the head, chest, or abdomen?

P. Yes, sir; that is exactly what we wish; and we practise it with success every day of our lives.

S. For the articulation, I grant it; but when the gout is transferred to the lungs or the stomach, is it not better to recal it to the feet and hands, by the

application of mustard, than to apply leeches to the chest or epigastrium?

P. Both proceedings are in those cases proper; and when we have succeeded in bringing back the gout to its first seat, it must be there attacked until the inflammation is destroyed, without the fear of causing a transfer to the interior; for it is right you should be informed, that in bleeding a joint, and prescribing refrigerants internally, there is not that repercussion to be dreaded. This only happens to physicians who prescribe for internal use stimulants, purgatives, or others, at the same time that they reduce the articular inflammation by cold or local bleedings. Therefore revulsives possess but a momentary utility to obviate on an emergency, while the anti-phlogistics are the only means by which a perfect cure can be effected.

S. So when a gouty, asthmatic, cachectic old man implores your assistance, you would bleed him unmercifully to the last, confine him to a regimen, and drench him with cold beverages. With this delectable treatment, I certainly think he would be very soon released from his sufferings. It is said, with good reason, that you are governed by an exclusive opinion, and that your predilection for inflammation prevents your seeing the true character of numerous maladies. I see clearly that the gout is not your triumph.

P. One moment, sir, I pray. Our business is to examine the question fairly. Did you not yourself

tell me, that you did not expect me to cure disorganizations of the viscera?

S. I did; but what has that to do with the question before us?

P. Very much, sir, I assure you. Allow me to develop my whole meaning. The gout is an inflammation, which attacks at first a toe or a finger, and from thence is propagated to other articulations, runs through the textures of the limbs, affects the bones of the trunk, and reaches at length the principal organs, the most vital. Like all the phlegmasia, the gout calls the humours to the textures irritated by it: at first it gorges these parts with blood, afterwards with lymph; when it is acute, and the subjects are robust, it causes these parts to inflame and suppurate; when it is less acute, and attacks aged, lymphatic, or less sanguine persons, it thickens, indurates, softens, or ulcerates these parts; in short, it alters the different textures in a manner conformable to their organization, and their degree of heat, force, vitality, or, in a word, to the energy with which these are endowed. So, in the articulations, it will sometimes produce inflammatory depositions, and later white tumours, nodes, chalky concretions; in the urinary passage it will engender suppurations, calculi; in the brain, frenzy in one, in others insanity and apoplexy; in the lungs, fluxions of the chest in sanguineous subjects, and in broken, pituitous, or scrofulous constitutions, it will produce catarrhs, or lymphatic swellings, or engorgements; in the abdomen, it will

cause the manifestation, at first, of acute gastritis and gastro-enteritis, that is to say, fevers; and later, in worn-out subjects, chronic gastritis, enteritis, and dysenteries. The cellular textures which surround the irritated viscera may thicken and degenerate. Such complicated ravages are attended by pain, convulsions, spasms, and the whole train of nervous symptoms. These patients will become irritable, choleric; they will suffer a privation of sleep and appetite; their strength entirely fail; their bodies be discoloured, bloated, deformed, and even mutilated.

These are undoubtedly a complication of evils; but what do they imply? That the progress of inflammation was not arrested when it began in the smallest extremities of the body: this is an unique phenomenon, in the first place local, which on assuming an intensity is propagated, and, acting on the fibres of distinct temperaments, has produced the varied forms of organic alteration which you have just now contemplated. But if, instead of allowing the progression of this unique and primitive phenomenon, the inflammation of the thumb or great toe had been arrested, destroyed in its commencement, it is very evident, that all those evils would not have happened. It is then to the early inflammation, or at least the inflammation which, although it may be already a little advanced, has not yet produced all these organic changes, and not to those alterations already completed, that leeches, diluting beverages, and a regimen, are di-

rected. You admitted this principle in the question of phthisis, obstructions of the abdomen, liver, &c. when under consideration. Now, sir, believe that it is equally applicable to the gout. No longer imagine, that there exists for this disease a principle different from that which presides over all other inflammations: if, up to this period, physicians have thought otherwise, it is because they have not made the necessary reconciliations.

You will perceive then, that there is no longer question of treating an aged, cachectic, gouty subject by leeches and regimen; he ought to have been prevented from attaining this degree of disorganization at which he is arrived; but since the mischief has taken place, the only thing remaining is to assuage his pains and support his strength by means not too irritating. This requires much sagacity and patience; and the profound knowledge of the means by which these indications are fulfilled appertains to enlightened physicians, proficient in the practice of the art. I venture to hope that you will no more reproach me with blindness and exclusiveness on the chapter of gout.

S. I admire the address with which you have arranged your arguments, but they rest on a principle which undoubtedly is not admitted by all your medical brethren. You always suppose the existence of inflammation in the infirmities attendant upon gout; and if this principle were contested, I should see you very much embarrassed.

P. But, sir, I have drawn this principle from

our predecessors; have they not made the gout an inflammation?

S. I grant it; but you have told me, that they no longer recognized this phenomenon in the consecutive incidents of gout.

P. Because they had not sufficiently observed: but you shall yourself judge of the value of their theory, when I have explained it to you.

Authors admitted gouty megrims or partial head-aches, insanities, sore throats, catarrhs, pleurisies, peripneumonies, gouty pains of the stomach, &c. If they were asked the meaning of these they would tell you, that these disorders were caused by the presence of gout in the head, throat, lungs, stomach, &c. Now if the gout is an inflammation in the articulations, it must be equally so in the other organs where it is driven; thus all the disorders that flow from the gout are nothing more or less than inflammations. Moreover, if this fact could be still doubted, the examination of organs after death, and the mode of treatment during life, will prove it sufficiently: the examination of organs, because the ravages therein discovered are all similar to those produced by inflammation; the mode of treatment, since it is clearly demonstrated that these same ravages are only prevented by local bleedings, antiphlogistics, and revulsives, means equally applicable to all other inflammatory diseases.

S. You are very urgent; and I rather choose to leave these authors to answer you themselves,

than continue to pursue this discussion. Only inform me how we are preserved from the gout.

P. The articular inflammations, which we call gout, may be manifested in every temperament by the influence alone of cold. Cold is then the most formidable cause of this malady; but since it is more particularly so in subjects already somewhat advanced in manhood, who are robust, sanguineous, and possess the *embonpoint*, who live well, and take little exercise, plethora being considered as one of the principal causes of this disease, I again speak here on the authority of authors.

S. Their opinion lends to your own a considerable weight.

P. So much the more, sir, since the same causes that give birth to this malady, engender equally, nay much more frequently, all other inflammations. Have I not shown you before, how plethora and gastritis produce apoplexy, &c.? You will easily infer from what I have now told you, that in order to be preserved from the influence of gout, it is requisite to live soberly, and remove the irritations of the stomach and excess of blood; to take exercise and avoid the moral affections, to control the toils of the study, the pleasures of love, and guard against the effects of cold.

S. I have heard of an English author, who attributes the gout to the bile and obstructions of the liver.

P. His name is *Scudamore*. He maintains, that the gouty inflammation derives its existence and is

engendered in the liver, and forms itself in some way by degrees therein, as well as in the digestive organs. At the expiration of a time more or less long, there proceeds from these viscera, to use the language of our author, an inflammation of a peculiar nature, which he calls gouty, which spreads itself all over the body, and of which the articular affection is only one of its numerous forms. The principal means which he opposes to this extraordinary inflammation are cathartics, opium, some other pretended anti-spasmodics, and tonics. But he is mistaken in the theory, since the gout manifests itself very frequently in persons who have neither irritation in the stomach nor the liver; he is equally mistaken in the practice, since cathartics are improper, as we have already seen, in the cure of inflammations of the stomach and liver; since, moreover, these remedies would in numerous cases remove the articular phlegmasia, and call it to the viscera, to the detriment of the patient.

S. If your professional brethren do not possess a theory of the gout more satisfactory than this I will adhere to yours. This all-peculiar inflammation, which germinates in the bilious accumulations of the liver and stomach, thence to diffuse itself into all the organs, appears to me a production of the imagination.

P. It really is, sir. It is a chimerical entity. There have existed many others in medicine. Similar theories have been in vogue on the irritation of nearly all the organs. These were isolated in

the first place, in their primitive nature, as disorders independent amongst each other; afterwards they were transformed, as circumstances required, one into another, making them act as so many evil-working beings on our organs. But the physiological theory has done justice to these errors; there exist no longer imaginary beings in medicine; and from ontologists as they were, physicians are become realists, or, to speak plainer, rationals.

S. I grant that up to this period you have spoken to convince me. But in what does rheumatism differ from the gout?

P. When the inflammation attacks the large joints, or numerous small ones, it is called rheumatic gout; and the name of gout is confined to that which begun in a small articulation only. But this distinction is frivolous: the two cases are identical. When the inflammation of muscles is excited by cold, it is called simply rheumatism; but it often proceeds from muscles to the articulations, and *vice versâ*. Besides, all these irritations act like that properly termed the gout, and demand the same treatment.

S. I see that all the diseases on which we have been occupied may be referred to the inflammations of organs; but what do you make of ring-worms or tetters, scrofulous affections, and what are vulgarly called nervous diseases? If you satisfy me on these various heads, it seems to me that I shall have very little more to wish for.

P. I am very glad, sir, that you did not begin

by interrogating me on these disorders; for, to give you an idea, I should have been obliged to have made you before acquainted with those we have conversed about, so great is the affinity that unites one to the other. In fact, very often ringworms *(dartres)* and nervous complaints are the produce of inflammation of internal organs; and if scrofula does not always depend on the same, it ends, in a variety of cases, by producing it. All these affections are equally owing to irritation, of which the effects vary, according to the vitality and structure of organs.

S. You have so completely extricated yourself on all occasions where I have reproached you with being exclusive, that I dare no longer attempt it; yet I confess I have a difficulty in believing that you can account for tetters and scrofula, otherwise than by the presence of morbid humour, introduced into the circulation and the textures of organs.

P. I hope nevertheless to succeed; but as it is necessary to enter into details, I beg you will allow me for this purpose several conversations. We will begin, if you like, with tetters, and from thence proceed to scrofula. The neuroses will require future sittings.

S. I shall expect you to-morrow.

DIALOGUE VIII.

TETTERS, OR RINGWORMS (DARTRES*); SCROFULA, RACHITIS.

PHYSICIAN. I am ready, sir, to set the impetiginous humour in its proper place, that is to say, beside the gouty humour, of which I believe you do not regret the destruction.

SAVANT. It is true, I do not regret it; but the eruptive acrimony appears to me a little more difficult to destroy: however, I will listen to what you have to say.

* The literal translation of *dartre* is tetter, or ringworm, an eruption which constitutes a genus of the order cutaneous phlegmasiæ of the French nosologists, and which properly belongs to the impetigines of our own. It has several species, the squamous, crustaceous, corroding, pustulous, phlyctenoid, and erythemoid. The proximate causes are a delicate skin, want of cleanliness, scurvy, syphilis, scrofula; in fact, almost every eruption not distinctly characterized (except those which may be referred to the exanthemata of Cullen), partakes, according to the common French prejudices, in some degree of this disorder. Thus on the sight of an eruption, the *c'est dartreux*, pronounced by an observer or a physician, that is to say, if I may create or employ the terms, and thus translate it, *it is tetterous* or *impetiginous*, becomes an alarming sentence, and portentous of much occult mischief to the patient.

P. It is only necessary to see the origin of a tetter, to be convinced that it does not depend on a virus introduced into the animal economy. An individual hears of the death of a friend, he feels an acute pain in the cheek, he applies his hand, and feels a tetter already discharging, suppuration has manifested itself. Another, on bathing in a river, exposes his back to the rays of the sun; he feels on it a burning heat; he is told that he has contracted that kind of erysipelas called *coup de soleil;* at the expiration of some days, the inflammation has diminished, and there remains a true characterized ringworm; a third experiences an abundant hemorrhage from the nose, or hemorrhoids; this flux is suddenly suppressed; the next day he is covered with ringworms. The same phenomenon is observed in females, where the periodical flux is suddenly interrupted by fright. What corruption of humours can be the result of such causes? We see here only a deviation of the circulation of the blood occasioned by irritation. These eruptions also attend the inflammations of the digestive canal and the liver; they may succeed to inflammation of the lungs, loins, and others which do not depend on the irritation of humours, and which consequently cannot produce this state, by assuming the form of these affections. The cases prove even to evidence, that these eruptions are nothing more than one of the numerous forms of inflammation of the skin, which at times are concomitant, and at others are substituted to the irritation of any other organ.

S. May it not be said in this case, that the eruptive humour existed internally, and that it has been called to the skin?

P. If this should be said, it would be supposed; for nothing can make it even be suspected. The blood of these persons is as pure before or after the eruption as is the blood of others, and the matter which is furnished has not even the property of communicating the malady by inoculation. This discharge is but a sort of pus, proceeding from the small glands seated in the texture of the skin, and destined to furnish perspiration, and the greasy, unctuous matter, with which this envelop is always covered. These sebaceous follicles or glands are irritated, they experience a perceptible inflammation, and suppurate, in a way peculiar to themselves; that is all. This species of irritation is called by physicians, who are physiologists, a *sub-inflammation.* It is cured as are all other inflammations.

S. That is to say, by leeches, emollient applications, a regimen, and aqueous beverages.

P. Add to these, baths, which are always successful when the eruptions are not too inveterate.

S. Then you do not admit the necessity of depuratives, sudorifics, purgatives?

P. We also make use of these medicines in those eruptions of long standing that have lost their inflammatory character; provided the internal organs be not too irritable. We do not prescribe with the intention of depurating, since there is neither corruption nor a foreign humour in the blood; but we

propose to destroy a vicious organic habit, and to turn away the irritation from the skin, by disseminating it over several organs. This is a real revulsion.

S. And are you not afraid of calling the irritation from the skin upon some important organ?

P. I am very glad you have put this question to me; it proves that I have been fortunate enough to be understood by you. Yes, sir; humourists and ontologists often determine this fatal translation, because, having only in view the evacuation of humours, they do not take into consideration the consequences of the irritation they occasion in the stomach, by their purgatives, resolvents, and pretended antiseptics. They generate a gastritis, which succeeds the cutaneous irritation, and it is at the expense of his digestive faculties, that the patient is freed from his eruptions; but, as the derangements of the stomach are partaken of by all other organs, we often see affections of the brain, lungs, and urinary passages, succeed to the removal of tetters. These fatal exchanges are even so frequent, in the practice of the old physicians, that hardly is there found one patient among many hundreds, whose health is not completely deteriorated. But it is evident that the eruptions are not the direct or exciting causes of these incidents. These diseases have only served to furnish physicians with the opportunity of tormenting the internal organs by stimulants.

S. Nevertheless, you make use of these stimulants?

P. Yes, sir; but since we have a knowledge of

the way in which they act upon organs, we administer them, but with due reserve; and we renounce them as soon as the digestive canal appears to suffer; whilst the humourist and ontologist physicians, who see but the evacuations, without thinking of the irritation that provokes them, never know where to stop in the use of them. It must be admitted in principle, that the eruptive irritation is a trifle in itself, that it affects only the skin, and that it ought to be destroyed without having recourse to a strong stimulation of the interior. If this existed before the eruption, it is a stronger reason for not irritating the viscera; and if the eruption continues, after the annihilation of all internal irritation, the viscera may be acted upon, but never to a degree that would fatigue the organs. Generally, the skilful physician can cure all these eruptions, without stimulating the internal organs by cathartics and pretended antiseptics.

S. Is not sulphur a specific in these afflictions?

P. Sulphur, administered in the form of a bath, or vapour, always exasperates these diseases, so long as the inflammation is pronounced on the skin, whence it gives birth to irritation in the viscera. This is a fault committed by all the ontologists. But after the antiphlogistic treatment, such as the application of leeches, made around the eruptions, relaxing beverages, baths possessing the same virtue, and the vegetable regimen, sulphur terminates a cure; but it is never useful administered internally.

S. How do you account for the good effects of

sulphur employed externally, since, irritating in its own nature, it is applied to a texture already irritated?

P. By the bracing or astriction which it causes on the skin; this astriction renders it thoroughly dry, and repels the humours from its texture; but only when the inflammation, which calls these humours there, is not too acute. The other astringents have the same effect, but sulphur is the most powerful of all.

S. You have just opened my eyes. I can now no longer believe that the blood is converted into a kind of brine, for the only reason, that there exists a small tetter on the skin. It is much to be desired, that we should be enabled to remove the fears of all those unfortunate persons, who believe themselves sooner or later destined to become a prey to apoplexy, paralysis, to become blind, consumptive, or asthmatic, because they have formerly had a tetter. Their existence is one continual state of torment.

P. It is the dread that these ills inspire which alone constitutes their calamity; for when persons so afflicted do not meet with physicians sufficiently complaisant to purge, depurate, or excite perspiration, they have recourse to quacks, or to receipts that they find in old books; they stimulate themselves beyond measure the organs of digestion, and finish, nearly always, by terminating their lives amid those very infirmities which they dreaded; at least, they do not escape the chronic gastro-enteritis, attended by a painful tumefaction of the liver; for the abuse of cathartics, sooner or later, is sure to bring about this result

S. You told me so, and I have not forgotten it. Let us now pass to the scrofulous affections.

P. There is in our economy a certain number of textures, through which there circulates very little blood; such are the glands and bones, particularly at the joints; they swell, become painful, and are filled with the lymphatic portion of our fluids, which exist more or less in all subjects, and which you have seen form a kind of water around coagulated blood. The parts, gorged with lymph, resolve and suppurate in their own peculiar way, that is to say slowly, because they possess little vital action. This is what we call scrofula, or king's evil; it may be observed in every age or temperament; but this species of irritation is particularly met with in children, and among these in the weaker and less sanguineous.

S. How! the scrofulous affection is limited to the attack of the bones and glands?

P. No, sir; these same subjects, which I have pointed out to you, possess more lymph than blood in the external organs, such as the skin, and its greasy texture that covers it. If then irritation in these parts be experienced, the lymph accumulates in them, in place of blood properly so called; and the exterior of the body of these subjects is covered with hard tumours and ulcers, which suppurate slowly, as well as the glands and articulations. All this constitutes a part of the scrofulous affection, which physicians of the physiological school call scrofulous sub-inflammation, to distinguish it, at the same time,

from inflammations technically called tetterous and leprous.

S. Does it not attack the internal organs, such as the head, lungs, and digestive organs?

P. With great difficulty, because these textures are warmer and more sanguineous; nevertheless, as the brain contains much lymph, if it happens to be irritated, it becomes excessively large in young children, in whom the bones of the cranium are not yet solid; the head becomes enormous, which constitutes a malady called hydrocephalus; as to the lungs, it may also contract them, when cold determines in them catarrhal inflammation, peripneumony, or pleurisy; but these often continue in a healthy state for many years, although the exterior of the body may be covered with tumours and scrofulous ulcerations. It would be the same with the digestive organs, if the inconsiderate use of tonics did not develop in these inflammation. But when this is formed, the mesenteric glands experience the same alteration as in the external parts, which produces obstructions, to which we have already had occasion to attend.

S. You always suppose then the concurrence of an irritating cause for the development of your scrofulous sub-inflammation?

P. Yes, sir. It is cold that determines it most generally on the exterior; it suppresses the perspiration, and immediately afterwards the glands that are situated beneath the skin become irritable, glutted with lymph, and proceed towards suppura-

tion. The same phenomenon takes place in the texture of the skin, especially about the nose, lips, and cheeks, which swell, and become painful; if the subjects predisposed to scrofula contract by cold a rheum of the nasal ducts, which we call *coryza*, and which the people call very improperly a cold in the head, or a catarrh of the gums, the skin of the face immediately after assumes the scrofulous appearance. It is the same with the eyelids, the edges of which contract a chronic phlegmasia, that thickens them, causes the eyelashes to fall, and even proceeds sometimes so far as to be the cause of the eye losing its transparence. The ears also partake of this painful swelling, and crustaceous discharges, which are also sub-inflammations manifested in those parts. In all these cases, where the glands of the neck are not in the first place swollen, they become immediately so, and the face is entirely disfigured. I beg you to observe, that these slow and lymphatic inflammations occur particularly towards the end of the winter, when the warmth of the day forms a contrast with the cold of the night, the morning, or evening; and observe that this season is the time also when catarrhal inflammations predominate amongst other subjects; but as they have not the lymphatic vessels so irritable as the scrofulous subjects, there do not result from it glandular swellings. It is always the irritability or inflammatory state of the lymphatic texture that constitutes the scrofulous disposition, or diathesis, and therefore it is not a peculiarly acrid or corrupted humour.

S. If the scrofulous disposition consist in that, those subjects who have it ought also to experience strumous swellings or sub-inflammation of this kind, when any other cause, independent of cold, determines with them an inflammation?

P. You have anticipated me, and these were the causes that I wished to rank after the alternatives of heat and cold. Then suppose a subject thus predisposed, who has not at the time any scrofulous disease, but who bears the traces of it in his countenance, receives a contusion upon one of the parts that I have indicated, for instance, at the knee, foot, or in a toe or finger, the articulation shall immediately swell, become hot and painful, the skin enveloping the part assuming a violet appearance, and the scrofulous inflammation is declared.

S. Does it never occur in these parts but by such causes?

P. The impression of cold alone may also determine these symptoms; for instance, where scrofulous subjects, after having experienced a painful coldness in the fingers or feet, hasten to warm these parts, or where they continue a long time covered by wet clothes, which are dried at the expense of the heat of the body. In all these cases the blood and lymph are precipitated in these parts, and since the latter predominates, the inflammation loses no time in assuming the strumous character, for struma is synonymous with scrofula and king's evil.

S. Is the scrofulous affection of the bones confined to the internal parts of the body?

P. The bones that form the articulation of the thigh with the pelvis are often affected from the consequences of falls, which produce a slow inflammation that ends by suppurating, dislocating, and shortening the limb, and producing the lameness which is called *spontaneous luxation.*

S. Still I have seen the disease in athletic adults, free from any suspicion of scrofula.

P. That is unquestionably true: it is an effect of rheumatism and gout, which are likewise articular inflammations occasioned by cold. Sometimes this affection of the thigh is even caused by a violent contusion, without the concurrence of these maladies. But here the affection of the lymphatic system is much less profound than in scrofula. All the parts of our bodies may inflame under the influence of blows, falls, heat, and cold; in a word, of every thing that irritates; but when these accidents occur to subjects who have not the lymphatic vessels very irritable, the whiter portion of our fluids accumulates there with less facility, which renders the cure also less difficult. This is the only difference that exists between the articular diseases of robust persons, and those of lymphatic subjects. The other bones, deeply seated, and covered by a large quantity of integument, are much less frequently attacked by scrofulous sub-inflammation than those of the extremities, which are colder, less protected, and more lymphatic. Nevertheless, sometimes the vertebral column participates in this. The bones of its construction soften, bend beneath the weight of the

body, which renders children humpbacked and rickety. The same mollification is possible in the bones of the extremities, which become crooked, and sometimes certain points of these different bones soften, discharge, become carious, and communicate the sub-inflammation to the adjacent soft parts. It is in this way that rachitis is combined with scrofula, by the pure and simple effect of irritability of the lymphatic vessels.

S. Now inform me, why certain children have the lymphatic system more irritable than others: I mean the causes of the rickety and scrofulous dispositions.

P. I expected this question.

We observe this disposition in children brought up in a cold and humid atmosphere, and who are deprived of the vivifying influence of the solar rays. It is still oftener seen amongst the poor than the rich, whence the conclusion has been drawn, that vegetable and farinaceous food, and a neglect of cleanliness, concur with cold, humidity, and a deficiency of light, to give birth to this disposition. In fact, these united causes are opposed to the development of the muscular power, the strength of the body, the warmth of the blood, rendering nutrition languid, irregular, and producing that superabundance of lymph which gorges those less sanguineous parts, and disposes them to contract scrofulous sub-inflammations, as soon as some irritating cause occurs to torment them. For that reason, these subjects are met with in large towns, where the houses

are lofty, the streets narrow; in deep humid valleys, surrounded by elevated mountains; in marshy plains, shaded situations, rendered damp by thick woods; whilst these diseases are unknown in arid and dry countries on the opposite sides of mountains to those exposed to the northern breezes; in short, in all places where the air is brisk, the solar rays abundant, the water pure, and where the soil is not overcharged with the produce of a vigorous vegetation. Besides, the causes I have attributed to scrofula are so powerful, that their action is not confined to children; and every day we see adults shut up in close prisons contract these disorders, although in their infancy they did not experience the slightest attack.

S. It will result from all you have just said, that robust persons can never be affected by scrofula; nevertheless, we have examples to the contrary; and notwithstanding the precautions which certain distinguished families take to bring up their children in situations the most favourable for the perfect development of the body, still are they seen affected with this disease.

P. The scrofulous disposition once established is susceptible, like all others, of being transmitted by the way of generation; and in spite of all the best-directed hygienic precautions, it sometimes perseveres during a certain time, although the frame of the subject has acquired much strength and vigour. So I have already told you that this disease may manifest itself in all persons; but if the children of

those scrofulous families were with perseverance withdrawn from the causes that produce it, it would at length disappear entirely. It may be even affirmed, that it is rarely so rebellious ; and that it is almost always possible to destroy it in the course of one or two generations ; particularly, if, after having taken care of the physical education of children of scrofulous parents, a similar care is taken to marry them into healthy families.

S. This last precaution appears to me very liable to suspicion. I should always feel a repugnance to contracting an alliance with a family tainted by scrofula.

P. Yet, I assure you, it is very difficult to keep free from it. There are very few numerous families, particularly in large towns, where there are not some scrofulous members. For instance, it suffices for an infant to be engendered in a moment when one of its parents, though in other respects healthy, was indisposed ; such may be the case with a woman who conceives too early in a convalescence, or after a miscarriage or uterine hemorrhage, for the child to be born with the scrofulous diathesis, blind, lame, rickety, or covered with small gland-like tumours, while the rest of her offspring enjoy the most flourishing health, and manifest a perfect development. This fact alone should be sufficient to induce you to abandon entirely the idea of a peculiar humour, a material taint, or a scrofulous infection. This fact, I assure you, is strictly true. Moreover, I will tell you about the matter of scrofulous ulcera-

tions, as I told you about the matter of tetters, it has on no occasion the power of propagating the disease; and the rest of the blood is so pure and well-conditioned, that wounds inflicted on scrofulous persons heal with the same facility as those of others. It is enough to preserve the ordinary inflammation within due bounds to prevent the scrofulous sub-inflammation from appearing there. This remark is applicable to all commencing irritations in scrofulous persons, and therefore it leads me to the principles of the treatment.

S. I shall listen to you with pleasure: you have relieved my mind of a great weight, in proving, that scrofula is not dependent on an acrid or corrupted humour that infects the whole mass of blood, and I am desirous of seeing you apply to the treatment of this disorder the principles that have guided you heretofore.

P. You will, in the first place, remark, that the preservative treatment is naturally deducible from the knowledge of causes. Bring up a child in whom you apprehend the disease in a healthy spot in the country, that is dry, well aired, well lighted by a clear sky. Give him a vigorous nurse; compel him to take much exercise in the open air, without overloading him with clothes; accustom him thus to support the atmospherical changes; and above all, be cautious how you withdraw him too hastily from this place to shut him up in a school, and force upon him disagreeable studies, in a damp situation, screened from the influence of the sun. Hereafter,

when you attend to his moral education, be very particular in procuring him those exercises and recreations that he has a taste for, always taken in the open air; provide, generally, that his nourishment may be healthy, without being too abundant; and be convinced, that, with these precautions, you will prevent the development of the disease.

When a scrofulous sub-inflammation makes its appearance, it must be combated like all other inflammatory irritations; one application of leeches removes the strumous swellings of the nose, lips, and ears, and the glandular swellings that attend them subside. These means may be repeated as often as the malady returns. Far from stimulating this sort of patients by tonics, they should be compelled to take refrigerant beverages, that are mildly diuretic; their food should be diminished in quantity; they should be confined to a vegetable diet, the lightest kind of meat, and on no account drenched with generous wine. Children recover rapidly. As soon as they are re-established, they are allowed to partake of more substantial food; yet the first means must be recurred to, if, at a future time, the scrofulous sub-inflammation re-appears.

S. These precepts are much opposed to those of the old physicians.

P. I grant it: but are they less useful? Upon the mere apparition of a mild scrofulous irritation, there is prescribed for children, who in other respects are in good health, dark coloured meat, game, mutton chops, pure wine, the most generous that can be

procured; they are compelled to take the *vinum absynthii, gentianæ*, the bitter elixirs; or there is added to these, to render them still more stimulant, a considerable dose of a caustic the most violent, called the *carbonate of potash*. But would you know the consequences of this incendiary treatment? In the first place, remark the moral inconvenience of this diet, that gives to all these children a relish for gluttony and intoxication; besides, in a physical point of view, you will frequently observe an enormous appetite, and a momentary augmentation of strength and comfort; afterwards heat of the stomach, redness of the tongue; still later, restlessness, fever, sadness, and ultimately an inflammation of the digestive channels, which, if it be acute, is characterized by the symptoms of a pretended essential fever; if chronic, by a slow fever which proceeds to marasmus. The belly becomes hot and tender to the touch; the glands of the intestines swell, tabes is formed, and the artist has succeeded in transferring to the textures of the viscera this scrofulous affection, which might have remained confined to the exterior, and which, after being there more or less reproduced, is always removed by the anti-phlogistic treatment, and may have terminated by vanishing, without the least degree of injury to the general development of the individual. Again, if this treatment always cured the exterior, there might be shown at least the appearance of success; but on the contrary, the more the organs of digestion are stimulated, the more the scrofulous inflammation of the

face, neck, and members, advance in progress, suppurate, disorganize, mutilating the whole surface of the body, and the sick languish into a state the most deplorable.

S. What a frightful picture! Yet I think it is a little overcharged, for I have seen children treated by this method, and who nevertheless have not terminated in the way you indicate. Do you not depend a little too much on the repugnance I have expressed to repeat to you the reproach of being exclusive?

P. I have told you, sir, that the physical consequences of this treatment were frequently such as I have shown to you, which implies that they sometimes vary. In effect, some young lymphatic subjects inclined to be irritable, and in the habit of taking violent exercises, such as hunting, fencing, dancing, support this kind of *medication*, or even find themselves so well, that they get the better of their scrofulous affections, and acquire great strength and development. These facts are incontestable, and I intended to repeat them to you, when you interrupted me. Nevertheless, it does not prevent the picture which alarmed you from being true; but there is a medium, which I also ought to explain to you. A great many children support the stimulus of the pretended anti-scrofulous remedies, without experiencing in the gastric channels an inflammation capable of producing fever and tabes; they develop with more promptitude, perhaps, than they would have done, but not with more security, for they con-

tract a chronic phlegmasia of the digestive organs without fever, which is the cause of frequent sore throats, that become habitual, and too often never abandon them. As long as they grow, or increase in bulk, it is supportable, but when they are arrived at the term of development, these subjects have all the symptoms of hypochondriasis; they are liable to convulsions, which is more particularly observed in persons of the sex, in whom the menstrual flux is deranged by the slightest cause. Their chronic gastro-enteritis becomes constitutional, oftentimes rises to the degree of a pretended essential fever, and does not disappear after the termination of the febrile state. In short, these unfortunate beings run through a most deplorable career, and often finish it long before the term which their original constitution seemed to ensure them.

S. I begin to reconcile myself with you; and I foresee that you can deduce from these three effects of tonics, satisfactory indications for the treatment.

P. I can; by telling you, that scrofulous subjects ought, in this respect, to be distinguished into two classes; one possessing an irritable stomach, and which, under no pretext, can make use of stimulants, but ought to be treated as other persons affected with phlegmasia; the second, lymphatic, having torpid digestive organs, and which are able to support all tonics; yet I think I ought to add, that even in these last it is very easy to abuse these means. They must be suspended then, as soon as it is perceived they fatigue the digestive channels, to return

to refrigerants; in short, follow the variation of symptoms at the exterior as well as the interior, but never forget that exercise in the open air is the condition *siné qua non* of the success to which we aspire.

S. I conceive, in fact, that stimulants may do injury to the stomach of scrofulous persons, as well as those exempt from this malady; but, after all, what do you do when these means have engendered gastritis, enteritis, or peripneumony; as likewise in a case where the scrofulous sub-inflammations of the exterior of the body have not been arrested at the beginning?

P. In all these cases, we follow the indications drawn from the actual state of the irritated organs of the interior, as well as of the exterior, without pursuing a pretended scrofulous entity by pretended specifics that are always the same. I explain. When the inflammation manifests itself on the exterior, we moderate it, not being able to remove it, by bleedings and emollients; if the scrofulous tumours or ulcerations that result are become inert, we excite them by topical stimulants; if there follow irresoluble disorganizations, we destroy them by the knife or the cautery. All this may be done without any inconvenience at the circumference; for one can live, as you have said yourself, in spite of the removal of a gland, the destruction of a certain portion of the skin, or the amputation of a limb. But it is not the same with the viscera; they must be preserved intact; the knife and the cautery, if

they could reach them, would not be expedient. Caustics and stimulants, which are so often taken inwardly, are not more suitable. In a word, every time the irritation, after having ravaged the exterior, is repeated in the head, the chest, or the abdomen, there are no more anti-scrofulous remedies to be given, since they are all drawn from stimulant medicines ; nothing remains then but the antiphlogistic treatment, which is here exactly similar to that opposed to other inflammations. Tonics, therefore, cannot be useful in scrofulous affections, but so long as the irritation has not penetrated to the interior, and always on the very express condition, that they shall be supported by the digestive organs, without their causing superexcitation ; but the physiological physicians, who understand gastritis, are alone capable of judging of it, and know how to arrest it in due time.

S. Is the treatment of rickets the same ?

P. We observe scarcely any difference. Tonics do not effect the re-animation of the assimilating powers, and assist the hardening of the bones, but in proportion as the viscera support them, without being over-irritated. Yet we have for rickets some peculiar means, which are common to ourselves as well as to physicians of all ages, as putting the patient to sleep on fern, or aromatic plants, making frictions on the skin with a fortifying liniment; the use of the cold bath, with the necessary management; compelling the muscles of the weak side to

act, and finally by strengthening the bones by appropriate medicines.

S. I am satisfied, and presume I shall hereafter no more have occasion to call you exclusive. I shall, however, suspend my judgment until I have heard you develop your theory on nervous affections. I hope this will be for to-morrow.

P. Without fail.

DIALOGUE IX.

IDEA OF THE NERVES; NERVOUS DISORDERS IN GENERAL; RELATIVE IN PARTICULAR.

SAVANT. Never did I wait for you with so much impatience. The disorders of the nerves appear to me so obscure, that I am desirous of knowing how they are considered in your physiological theory.

PHYSICIAN. Permit me, in the first place, to ask you if you know what a nerve is?

S. I have not studied anatomy, but I know those people are called nervous who have the sensibility much heightened, and who are subject to extraordinary sensations and convulsions. I have read in some authors, that the nerves are destined for sensation, but I have no clear idea of them.

P. The nerves are filaments, or white or greyish cylinders, distributed in every part of the body. They are of two kinds, very distinct one from the other; the first, which are called cerebral, proceed from the brain, or from its prolongation inclosed in the vertebral column, and repair to all the organs, to give them sensation and motion. They are very numerous, since there is not a single part that does not receive them. But they particularly abound in two kinds of organs: in those of the external senses, the

eyes, ears, nasal ducts, the mouth, and skin; in those of voluntary movement, the muscles that are inserted in the bones.

The nerves of the second description, which are called *splanchnic* nerves, that is to say, *visceral*, are also designated collectively by the term *great sympathetic nerve*, because they are considered as forming only one nervous mechanism. These nerves are much less numerous than the preceding ones; since they are only formed in what is called the viscera: namely, the heart, lungs, stomach, intestines, liver, spleen, loins, and the sexual organs. Yet they are sufficient to fill these viscera. Their threads interlace around these organs and their vessels. They communicate with those of the first kind, in the organs of sense, in the muscles of respiration, and ascend even as far as the brain.

The cerebral nerves have for their centre the pulpous mass of the brain. They carry to it the sensations of sight, hearing, smell, taste, and touch; and it is by these that the brain executes all voluntary motion. It is by their means that ideas are received, and that afterwards we think, speak, move, seize upon objects, &c. They are destined to serve our relations with external bodies.

The splanchnic nerves, that I shall designate hereafter by the word great sympathetic, have for their centre a great number of small reddish bodies, called *ganglions*, deeply situated along the vertebral column, and behind the stomach. There proceed from them threads, which shape their course in every direction.

to surround the vessels, and penetrate with these into all the viscera. They govern their movements, and render them independent of the caprice of the will. In as much as the others are sensible, in so much are these insensible. But the viscera, receiving some nerves from the brain, may also make sensations reach there; however, they are much less lively than those we feel in parts where the nerves of the brain alone exist; there are even organs where the sensations are almost of no effect. Thus, we can experience pain or pleasure in these organs; but can never excite movements, or put a stop to those which take place there. With these short preliminary notions, I hope you will understand me, when I shall speak of nervous disorders, which we also call *neuroses*.

S. I foresee that you are going to distinguish two kinds of *neuroses;* neuroses of the cerebral nerves, or of relation; neuroses of the visceral nerves, or of the internal functions.

P. Certainly, sir; but I must render them perceptible to you, or in a manner palpable. Have the kindness to hear me.

All the neuroses are produced by the action of irritating causes; that is to say, by irritation. This proposition will at first make you lay hold of their relation with inflammation. For when the inflammation, which is but a sort of irritation, exists in any organ whatever, the nerves which belong to the organ have a sensation of it, and there is a nervous

disease. Consequently, every time that inflammation exists in the brain, or spinal marrow, the cerebral or spinal nerves are affected. There will be at first painful sensations in the organs of sense, and in the muscles; convulsions afterwards in these last; at length, when the inflammation shall have accumulated too much blood and humour in the brain, in the spinal marrow, or has disorganized them, the pains, the convulsive movements will cease, and there will be paralysis. Such is the general idea of the first section of neuroses of relation; they are called cerebral neuroses. Let us develop the theory.

You should, in the first place, know, that the brain may suffer violent acute inflammations with fever, and slow or chronic inflammations without fever. The first are known to physicians by the name of *frenzy*, or cerebral fevers; sometimes these are called malignant fevers. In this case, there is delirium, convulsions, grinding of the teeth, starting of the limbs; the eyes are very sensible to the light, the ears to noise, &c. Well, then, all these are nervous phenomena, true neuroses, depending on the acute inflammation of the brain or its membranes.

The second, or chronic inflammation, of the same textures, are characterized by continual pains of the head, which may be either general or partial, correspond with the forehead, the summit or vertex, the occiput, or one of the sides, ringing in the ear, &c.; these are the local signs. When they are per-

manent, they attest the inflammation of a portion of the brain or its membranes. Now we come to the nervous phenomena that depend on this.

The sick complain of heaviness of the head, dimness of sight, stunning, an insurmountable tendency to sleep, and loss of memory; they have habitual convulsive movements in an eyelid, in an arm; and sometimes this last remains in a permanent state of contraction; they experience optical or acoustic illusions, tingling in the ears, one half of the body is weak, languid, or otherwise; they suffer convulsive movements, which force them to make distorted gestures when they would walk, take hold of something, or raise their food to the mouth; and this state is called the dance of St. Vitus, or *chorea Sancti Viti:* others have epileptic attacks; several, after having suffered a long time in the head, and laboured under severe megrims, become quite insane. Now all these nervous phenomena, which authors range among the neuroses, are the effect of inflammation that irritates a part of the brain. This irritation troubles at first the intellectual functions; afterwards, repeating itself through the nerves which the brain sends forth to different parts, it causes that series of evils of which I have given you the picture.

S. You make me shudder. How! have all those who complain of nervous affections, of which you have spoken, the brain inflamed?

P. At first, they have it only irritated; but if this irritation continues a long time it proceeds to

the inflammatory state; and after these nervous diseases of excitation, which may be called active, there occur other nervous abirritations, which are said to be passive, and the appearance of which indicates an excessive obstruction of the brain, the effusion of blood in this viscera, its suppuration, or its disorganization. These constitute palsy.

In fact, at the end of a time, more or less long, all the nervous functions that were heightened fall into inactivity. Thus it is, that delirium changes into idiotism, or stupidity, when the whole portion of the brain that presided over the intellectual faculties is disorganized: when it is but partially, the patient loses only one of his faculties, as the memory; if the part of the brain that corresponds with one sense be disorganized, the excitation of this sense is followed by its abolition. It is thus that blindness or deafness succeed to the excessive sensibility of the sight and hearing, and the paralysis of the eyelids to the convulsive state which these have long experienced. When the cerebral disorganization takes place in a situation corresponding with muscles, with those of an arm or leg, these members, after having been convulsed, lose all motion, and become paralytic; but if one whole side of the brain, which was at first but irritated, as in certain *chorea Sancti Viti*, be afterwards altered in its organization, the paralysis attacks the side of the body that was convulsed, and it is always that opposite to the affection of the brain. This paralysis bears the name of *hemiplegia*.

S. Whence does it arise?

P. From the nerves which leave the brain in order to go to the muscles of the limbs, crossing each other before they leave the cavity of the cranium. But permit me to go on.

You have just seen partial paralysis, because there was in the brain a partial disorganization: suppose now that the sanguine fulness of the brain was general, that it exists, at the same time, in the portion of this viscus which corresponds with the intellectual faculties, with the senses, and in that part on which depends the motion of the limbs; all these functions will be suspended: there will be at the same time abolition of intellect, of external sensation, and muscular motion. This is called *apoplexy*, when it is very severe, and the patient, by excitement, cannot be brought back to himself again; *coup de sang* (sanguineous apoplexy), when the accident is but momentary; lastly, *comatose*, or *lethargic state*, when the patient has not entirely lost all sentiment and motion, and he appears only plunged in a profound sleep. Sometimes this general torpor of muscles is more profound on one side of the body, the limbs of this side not executing any movement, and when they are lifted up they fall again like those of a corpse; in short, they are entirely paralyzed, whilst those on the opposite side preserve still some motion when they are pricked or pinched. This sign indicates, that to the general obstruction of the brain is joined an effusion of blood, or some other disorganization on the side of this viscus, opposite to the hemiplegia. This alteration renders the attacks of

apoplexy much more formidable, for the patients are in danger of perishing; and most ordinarily, when they recover, they retain for a long time this hemiplegia. Certain shades of the obstruction of the brain, which do not proceed so far as disorganization, produce the suspension of the intellectual functions and voluntary motions, but with this particularity, that the limbs preserve the attitude that is given them; for instance, if a leg or arm be raised, in lieu of falling down again, it remains in the attitude where it was placed. This disease is called catalepsy; it may, like all those of this kind, terminate by partial paralysis, or by apoplexy.

It often happens also, that these patients, after having suffered partial excitations, then paralysis equally partial, either in the senses or in the intellectual faculties, or, in short, in the muscles, fall at length into apoplexy, and this is then mortal. Such is the ordinary end of epileptics, of maniacs, and all those, in a word, in whom a portion of the brain has passed successively from partial excitation to the paralysis of the same kind, for the very reason that the alteration of one portion of the brain terminates always by extending itself to the totality of the organ.

But we have not yet spoken of the spinal marrow. Well then, know that this prolongation of the brain, which extends from the head to the coccygis, may also undergo inflammation, and become disorganized like the brain. Now this inflammation produces convulsive movements, or permanent convulsions in

the muscles of the trunk, particularly in those of the back. Such is tetanus, when this inflammation is general; such are certain convulsions and stiffness of the inferior extremities when it is partial, and situated near the loins; lastly, when it has disorganized the irritated point, all the muscles, which receive from it their nerves, as the lower extremities, the bladder, and rectum, fall into paralysis; and death is sooner or later the consequence of this state.

You see then, sir, that the principal nervous disorders, those of the functions of relation, unite themselves in a very intimate manner with the great phenomenon of inflammation. You shall very soon be convinced, that it is exactly so with the nervous disorders of the interior functions.

S. I cannot get rid of my astonishment. I had found in authors all these nervous affections separately described under different titles, like so many disorders quite distinct from one another; I never should have imagined that they were but shades or divers degrees of the same affection, and especially that they are all subordinate to the inflammation of the brain and the spinal marrow, or even to the irritation of these organs.

P. This independence of shades of one same affection, this custom of considering them as different disorders, which have each their specifics in the apothecary's shop, is nothing else than pitiful ontology.

S. It is very well for the cerebral neuroses; but

you have given only the first section of those of relation; what is the second?

P. It is composed of nervous affections which are confined to a sensitive nerve, or mover, without any intervention of the cerebral irritation. Here are some examples: the auditory nerve, which is shut up in a hollow cavity in the bones of the temples, may be inflamed alone, by having been forced to act too much, or by another irritating cause; then there is an excessive sensibility of the hearing, perception of confused sounds, the lightest shock of the air fatigues this sense as much as would the explosion of a battery of cannon in a healthy man; at length the nerve, after having been too much excited, paralyzes, and the hearing is for ever lost. It is the same with the sense of sight; over-irritated by different exciting agents, above all, by a too powerful light, the optic nerve, which is charged with it, cannot support the impression of the luminous rays; the sight is lost during the day-time, and returns at night with an artificial light. But very soon the optic nerve is weakened; it becomes insensible to an artificial light; it wants all the brightness of the open day, to distinguish objects; at length the nerve, or rather its membraneous expansion, situated at the back of the eye, and which is called *retina*, is disorganized, and the sight is entirely lost.

S. Are there not also illusions of the sight, which physicians class with nervous disorders?

P. Many people imagine they see flies fluttering

about. That depends most frequently on an obstruction of the retina, which experiences irritation; but this illusion may also be the effect of delirium, and then it has relation to the irritations of the brain. The obstruction of the retina determines also the sensation of certain black lines, similar to spider's threads, that intercept vision; the inflammation of the interior of the eye shows a ball of fire. In certain shades of the cerebral affections only one-half of objects are seen. Those illusions, which depend on a defect of the retina, or the membranes that secrete the humours of the eye, tend to produce blindness; but those which are manifestly caused by the irritative obstruction of the brain, may, moreover, be followed by partial paralysis, and terminate in apoplexy.

S. What do you understand by the gutta serena? Is that not also a nervous disease?

P. Gutta serena, which physicians call *amaurosis*, consists in a blindness foreign to the eye; this organ is as clear and as transparent as usual. The brain alone is affected with an irritation that engorges it in the region which corresponds with the sense of sight. Gutta serena is then a disease of the brain, which belongs to those of which we have spoken.

S. And persons who squint, do they owe this deformity to the affection of the eye or the brain?

P. Strabismus (so we call this disease) may depend on the excess of sensibility of an eye, which turns away, by the influence of instinct, to avoid a

light that fatigues it, that is to say, that irritates it: at other times, it is the effect of habit in young children, when they are placed in the cradle in a way to receive the oblique rays of light. In either case, the disorder is confined to the proper muscles of the ball of the eye, and it is not sufficiently intense to procure their paralysis. But strabismus is sometimes caused by an irritation of the brain, which developes itself after the suppression of hemorrhage. It is thus that certain young girls, whose menstrual flux is arrested, become suddenly deformed, and subject to strabismus. It is still possible that the same affection may be the effect of an irritation of the uterus or digestive organs, which is reflected back on the brain without this viscus being seriously altered.

All this may apply to convulsions of the eyelids. The irritation of the brain, that produces these different convulsions, may only be temporary. If it become permanent, it causes the disorganization of the cerebral point affected, and, in the end, the paralysis of muscles that were convulsed; but this has still relation to partial irritations of the brain, of which I have already made mention. The excessive sensibility of the retina, without affection of that viscus, is now the object of our attention. You see it causes the irritative fulness accompanied by certain optical illusions, and, in the end, loss of sight. Such is the principal nervous disease, the essential and purely local of the nervous branch, which is charged with the sight.

S. I understand you; it really appears to me very reasonable, to admit that the irritation of a sensitive nerve may tend to its disorganization, and the loss of a sense; since the irritation of the brain, which is the centre of sensitive nerves, may, in disorganizing it, accomplish the loss of all the senses at once. Are these all the external and partial nervous affections of relation?

P. The same that happens to the nerves of sense, may take place in those of the muscles by a cause wholly local; so the nervous trunk, that furnishes branches to all the parts of a limb, is sometimes irritated, inflamed, and the most pungent pains are felt, in pursuing the direction of these branches, at the same time that the muscles to which they are distributed experience convulsive movements; but, when the inflammation has disorganized the trunk, sensibility and convulsions disappear, to give way to paralysis. Such is the general course of these local nervous affections; but in a great number of cases, the irritation fixed in the track of a nerve is not sufficiently intense to disorganize it, and almost the whole life is spent in sufferings, that would be intolerable if they were continual; however, most usually the pains and convulsions only return at intervals, although the inflammation that caused them is continual. Such are the disorders which physicians designate by the name of neuroses. They are observed in the face, eyes, jaws, arms, thighs, and legs, in a word, in all the nervous branches that give feeling

and motion to the muscles of the external parts of the body. The irritation, their cause, is not always limited to one part of a nerve; the greater part of the trunk, and even most of its branches, may participate therein, and be the prey of a true inflammation.

At other times, the irritation which torments these patients does not rise to this degree; it may recede entirely, and return again, by a sort of inexplicable habit. There are cases where nervous affections depend solely on one of its nervous branches being implanted in an inflamed organ. Thus, a diseased tooth may cause pain in the whole face, &c.

S. What are the causes of these nervous affections?

P. All the causes of phlegmasia, without any exception; an irritating cause acts on a part of the body; instead of giving birth there to phlegmon, erysipelas, rheumatism, &c., it developes a nervous disease; cold is one of the causes that most often produce them. At other times, they are seen to appear after the sudden disappearance of an inflammation, as if this last had been for a time absent; thus nervous disorders may succeed to erysipelas, tetters, gout, rheumatism, and even to the suppression of habitual hemorrhages. It has been imagined, that particular humours produced all these phenomena; but it is manifest, that the effect has been taken for the cause. Humours seen on an inflamed surface are the effect of inflammation, and exist only in the place where they are generated.

S. Are there then no cases where paralysis is immediately produced by the action of irritating causes, without previous inflammation?

P. Such cases exist, sir. A violent commotion, moral or physical, is sometimes seen to abolish the motion and sensibility in a thigh, arm, &c. to such a degree, that it requires the most active excitation to call back the vital properties. Cold produces also similar effects; all these causes may act in the same manner on the brain, from whence results sometimes death: in this case it appears certain, that the cerebral substance has suffered a disorganization, which no longer allows it to fulfil those functions which were assigned to it.

S. Are these all the nervous affections of the functions of relation?

P. I have not perhaps described to you all the forms of them; but they may be ranged with the two sections of which I have given you a sketch. Permit me now to complete the picture of nervous diseases, by speaking of those of the internal functions.

S. Willingly; this subject interests me. This expression, affected nerves, resounds so often in my ears, and I am so completely tired of hearing physicians repeat so incessantly, that these disorders take quite an unusual course, and are unknown in their nature, in short, you have so much roused my curiosity, that I promise you my whole attention. Let us see then what are the nervous affections of the interior functions?

P. The development of the physiological theory of these disorders would carry us to-day much too far: allow me then to defer until to-morrow the satisfying of your curiosity.

S. You are right, doctor; and indeed I am not sorry to reflect at leisure on what I have just heard.

DIALOGUE X.

NERVOUS AFFECTIONS OF THE INTERNAL FUNCTIONS.

PHYSICIAN. Well, sir; are you disposed to attend to the history of nervous affections of the internal functions, which we call visceral neuroses.

SAVANT. Much disposed; and the more so, as I think I have occasion to understand them, in order to form a just idea of those which you explained to me at our last interview.

P. In fact, the history of nervous affections of the interior is prepared by those of relation, or exterior; and you will see them proceed, like those, from inflammation, or at least from the irritation of organs.

In the same manner as the inflammation of the brain or spinal marrow determines a derangement in the functions of their nerves, and produces nervous affections of relation, so the phlegmasia of other viscera occasions such a derangement in the action of the great sympathetic, and provokes nervous affections in the internal functions. It is thus, inflammation of the heart causes palpitation; that of the lungs, a suffocation which is called asthma; that of the stomach, dilatation, with flatulence, constrictions, phe-

nomena that are designated by the term *spasms*, and vomiting; those of the intestines, extraordinary movements in the canal, which tumefies, contracts itself, is agitated in every sense, and sometimes the running of one portion of the intestines into another, which is called *introsusception;* in short, precipitate and convulsive discharge of fæces.

You see there are many nervous disorders; they take place in the muscular fibres of the viscera that are put in motion by the great sympathetic nerve, and can only be atributed to the irritation of this nerve; but let us speak of sensations that attend them.

In the first place, remember, that one of the nerves of the brain, the eighth pair, has its roots implanted in the texture of the viscus. Now, this nerve communicates to the mind the irritation that these organs suffer; thence, in the case of inflammation of the interior surface of these viscera, arise, at first, burning and poignant pains, erosions, itchings that may be felt distinctly in the throat, the stomach, the intestines; thence afterwards, perceptions less clear, but often more painful, arising from the convulsive state of the muscular tunics of these same organs; for instance, the sensation of suffocation and anguish in the attacks of asthma, and in palpitations; pains more or less acute, or very obscure, in the spasms of the stomach, and in vomitings; colics, gripings, tenesmus in the convulsive movements of the intestines, and in diarrhœas.

You see that, up to this, the brain has only acted a passive part in these nervous phenomena; its

functions were limited to procure to the mind perception; now you are going to see it participate actively, without our digressing from the phenomena of the nervous visceral affections.

This association manifests itself in the part which they take in the nervous motions of the organs of the chest and abdomen, and the muscles of the trunk that serve as an envelope for these organs. These muscles, which you may have seen in their naked state, in the models that serve for the instruction of painters and statuaries, these muscles, I say, cannot move without the influence of the brain; the will may dispose of them, as it does, to speak, to sing, to assist efforts, locomotion, &c.; but it is on condition that those organs, to which they are principally destined, do not require their action. Now the viscera have occasion for them, for the movement of respiration, deglutition; for the expulsion of fæces, childbirth, &c., and in all these cases the will is obliged to resign them: that is to say, we cannot speak when the necessity to breathe is very urgent, &c. It is the same in the disorders before us: it is by virtue of this law, that the chest acts convulsively to satisfy the necessity to cough and sneeze, and in the attacks of asthma; that it contracts in vomiting, with the muscles of the belly; that these last dilate and contract to follow the variations which the intestines experience, when an inflammation in these produces windy inflations, constrictions, gripings, tenesmus, diarrhœa. These extraordinary movements of the respiratory muscles (for those of the abdominal

walls are of the number) make a necessary integral part of the nervous affections of the interior functions; but it is in acting on the brain by these nerves, that the visceral irritation is determined. There are some others, which do not necessarily make part of the nervous affections; they only are added to them by a true complication, which associates the cerebral nervous diseases with those of the interior functions: they are particularly observed in the inflammation of the viscera of the abdomen.

When the internal surface of the stomach and intestines is attacked by an acute inflammation, as in the pretended essential fevers, the brain participates in the irritation experienced, which produces delirium, pains in the muscles of respiration, and even in those of the limbs, and, if the subject is very irritable, convulsions. These phenomena are sometimes so intense as to divert the attention of the physician from the cause that determines them; thus they neglect the gastritis, in what they call malignant fever, to attend only to delirium, restlessness, and convulsive movements; and I ought on this occasion to call to your memory the illness of my father, where I committed the same error. So much for the acute state of these disorders.

In chronic gastritis and gastro-enteritis, the influence of the digestive channels on the brain is not less remarkable: when a very irritable person is attacked by these inflammations, their effect on the moral faculties shows itself by uneasiness, sadness, fatal presentiments, as are observed in all hypochon-

driacs; it proceeds sometimes so far as to cause the total loss of reason, as it happened to your wife. But the muscles are not less modified: the irritation the brain receives from the digestive channels causes pain in the back, loins, in the partitions of the chest, in those of the abdomen, and in the limbs. These pains are rarely fixed; they change their situation, which causes the belief that there exists a concomitant rheumatism: there is felt in these parts a starting; movements like those of a little animal that is restless amidst the integument; sometimes cramps or true convulsions are felt there; at other times, alternations of strength and weakness, which make the patient sometimes confident and cheerful, at other times so pusillanimous as to make him believe he is incapable of executing any movement. The senses cannot fail of participating in the irritation of the brain, stimulated by the gastric or internal inflammation; hence, the detriment of the sight, that grows dim, ringing in the ears, perceptions more or less extravagant and inconvenient of cold, of heat, or the presence of an extraneous body in the scalp, the face, or other parts of the body. If you add to these nervous sympathetic phænomena (that is to say, provoked by the influence of the digestive channels) those which depend on the nervous affections of these organs, as the pains at the different intervals of digestion, uncommon hunger, evacuations, vomitings, distensions, constrictions, flatulence, sensations of a ball, a worm, an animal, fire, water, of a hand or a paw that tears the

entrails, of a weight that presses on them, &c.; you will have the explication of hypochondriasis of which we have spoken elsewhere, and which, in reality, is but a phlegmasia chronic gastro-intestinal, in a subject whose brain and nerves are very irritable.

Do you wish now to obtain an idea of asthma? Figure to yourself an inflammation in the internal membrane of the canal or bronchial pipe that follows the trachea, to conduct the air into the lungs, and in the divers branches which proceed from this canal to inflate these organs; well then, no more is required in a nervous subject, to create there a sense of suffocation, a painful heaving of the breast, sensation of oppression that bears upon it, a whistling respiration, continual and vain efforts to cough and expectorate, and strong palpitations of the heart. These are local phenomena: others depend on the influence of the lungs on the stomach, such are flatulencies, and some other symptoms of hypochondria. As to those symptoms which result from the action borne to the brain by the bronchia and the lungs, they are limited to anguish, sadness; but there are never seen added convulsions and delirium, unless there be a predominance of gastric or intestinal irritation. After this cause of asthma must be placed, without hesitation, those of all the other textures that compose the lungs, the effusions that contract the space destined to them, in the cavity of the chest, the irritations of the stomach, and finally the diseases of the heart. The influence of these last on the paroxysms of asthma is so considerable and

frequent, that many physicians of Germany, Geneva, and England (and to imitate them, some French), have dared to maintain that all asthmas were the effect of some affection of this organ.

The nervous affections of the heart, as well as those of the lungs, are owing to an irritation in its texture ; thence palpitation more or less violent, and sometimes the suspension of the action of the heart during some seconds, which causes an insupportable anguish, with suspension of the act of respiration, painful immobility of the chest, dread and fear of death. Sometimes the pain that results from these spasmodic constrictions of the heart seems to proceed from the inferior part of the sternum, and approaches to the shoulder, arm, or even to the left hand, which obliges the patient to stop short when walking. Of this shade of simultaneous irritation of the heart, lungs, and neighbouring muscles, there has been formed a particular disease, under the name of *angina pectoris.* The irritation of the heart that produces these different kinds of sufferings, be it acute, inflammatory, violent, or those diseases in a word which are called acute carditis or pericarditis, threatens the patient with sudden death, which the disorganization of the heart sufficiently pronounces. If this irritation be less active, if it do not arise to a degree of inflammation, then it is called nervous, because it disappears and returns again; but the physiological physician, who knows that every irritation often repeated becomes at length continual, and induces soon or late the disorganization of

the texture affected, will not be astonished at seeing *hypertrophy* of the heart, aneurism of this organ, its induration, tuberculous degeneration, ossification of the arteries, the rupture of its columns, the enlargement of its orifice, and other alterations, succeed to the pretended nervous affections of the heart. He will consider all these disorders as the effects of irritation, and he will say, "as long as the irritation acts in this organ, it will produce there a twofold effect: to invite thither the blood, the lymph, to change the nutrition of it, after the manner of chronic inflammation, and to derange the regularity of its pulsations, and so that of respiration." "Now," he will add, "as long as the generality of physicians regard only this last effect, they call the disorder a nervous affection of the heart, asthma, palpitation, *angina pectoris*. When at last they perceive the result of the first effect, they make use of the terms, aneurism, organic defect." Such is the cause of the divergence of their opinions.

I could further develop this subject; but I have said enough to make you acquainted with the relations which associate the nervous affections of the chest with the inflammation of the organs confined in this cavity.

S. No, sir; you have spoke to me of aneurism of the heart; I should like to have some elucidation of this disorder, that has acquired such importance since the work of Dr. Corvisart appeared.

P. You shall be satisfied, sir; but permit me to finish the picture of nervous affections of the interior functions, and to illustrate to your perception

their relations with the cerebral neuroses. We have just seen those of the principal visceral functions, the digestion, respiration, and circulation: there remains for me to give you an idea of nervous affections which belong to the reproductive functions. I will limit myself to speaking to you of hysteria, that disorder so peculiar to women, so common in the higher classes of society, and which the public commonly designate by the name of *vapours* and *attacks of the nerves*. It will be properly placed here, for this affection is composed of phenomena common to all those of which we have spoken.

S. I shall gladly hear you treat this subject, for the disorder has often appeared to me very suspicious.

P. It is but too real, sir; however, as it is composed of nervous phenomena of two kinds, there are some which are susceptible of being feigned; you will judge yourself, after having taken a view of the picture that I am going to have the honour of tracing to you.

S. I shall then wait for you to-morrow at the same hour.

DIALOGUE XI.

HYSTERICS; FEIGNED CONVULSIONS.

SAVANT. You arrive at a very convenient time. I have just quitted the house of a friend, whose wife is completely a prey to vapours. Between ourselves, I suspect a little trick; for I observe, that these attacks always seize her when she would obtain something from her husband. I wish all husbands would make a particular study of hysterics.

PHYSICIAN. The attacks of hysteria are produced just as are all those called attacks of the nerves. It is always one irritated organ that troubles the others. Here it is the uterus; but we must establish a distinction; the uterus may be irritated and even inflamed in a woman but slightly nervous, without there being hysterics; the patient complains only of pains more or less strong in the sexual organs, and may have some discharge or other. It is not so with women, whose nerves are irritable and moveable: every time their sexual organs are in a state of suffering, the other organs participate, and even a genuine inflammation is not necessary to it. The sanguine congestion which precedes and prepares the menstrual flux, desires not satisfied, excess of pleasure, in a word, every kind of extraordinary *orgasm* suffices to irritate the uterus to

such a degree, that it re-acts on the nerves and produces the paroxysm.

The first influence that an irritated uterus exercises is on the viscera of the abdomen and the chest; the second, acting at first on the brain, is repeated in the locomotive nerves. These influences are themselves irritations; that of the abdomen produces phenomena, which have much analogy with those of hypochondria; thus, the sensation of a ball that rolls more or less rapidly in the abdomen, and, rising, directs itself towards the chest or the throat. This ball seems to compress the diaphragm, the heart, the lungs, &c.; it binds firmly the throat, and causes the fear of suffocation. These women have flatulence, which often escapes with noise; they sigh, have the hiccup; they feel themselves swollen, suffocated; they gasp for breath, and hasten to loosen their gowns that bind the chest or stomach. In some the abdomen dilates and contracts, rises and falls with the rapidity of a pair of bellows, or moves circularly as the stone of a mill; they have violent palpitations, and often place the hand upon the heart, as if to control this organ, which seems to start out of the chest.

These nervous phenomena are produced in the following manner:—You know the great sympathetic nerve is composed of numerous threads, disseminated in all the viscera, and communicating among themselves by a certain number of central points called *ganglions*. Now, those threads which are in the uterus transmit the irritation of this organ to all

the other portions of this nerve, and oblige all the viscera to participate in the injuries of one. Hitherto we see only a nervous affection of the interior functions; but now observe the complication:

This tumultuous irritation of the inferior viscera being perceived by the mind, through the medium of the brain, the result at first is a state of distress and anguish, which holds these women immovable, and prevents them from speaking. How can they speak when they can hardly breathe? But very soon, the irritation transmitted to the brain rises to such a degree, that the will loses all its influence over the muscles; they no longer obey aught but this irritation, and the woman is convulsively agitated in all directions, similar to epileptics. It is then that violent contractions are observed in the limbs, and particularly in the arms; the torsion of the backbone, the spasmodic stiffness which renders the body hard and inflexible, the flexion of the body in various ways, the rolling of the eyes, contortion of the face, violent fits, or a sort of starting, which raises the whole body, and a thousand other convulsive movements more or less extraordinary. Who then can here mistake the complication of nervous affections of relation with those of the interior functions?

You are now able, sir, easily to judge to what degree a woman may feign these attacks of hysteria; she may imitate all that depends upon the will; she can command the agitation of the chest and the abdomen, and contract the limbs with more or less force; but a practical physician will always dis-

tinguish these movements from real convulsions; they have neither the strength nor the duration of these last. What it is impossible to feign in the series of muscular convulsions, is the torsion of the spine and the tetanic stiffness.

As to the nervous phenomena belonging to the viscera, since the will exercises no empire over these organs, a woman can only declare them, or feign to suffer them; she may certainly say, she feels the hysteric ball, and that she suffocates; but she cannot swell herself and contract her intestines, create herself gas, execute the rotatory movements, imitating the mill-stone of which I have already spoken. It neither depends upon her will to show a degree of swelling or heat, either at the neck of the uterus, or in the cavity of the pelvis, nor to have leucorrhea or uterine hemorrhage.

In some cases, the nervous disorders of the abdomen, instead of provoking convulsions, produce a total cessation of the functions of the brain, and the torpor of several organs. The patient remains motionless, and loses the use of her senses; her respiration is suspended, and the pulsations of the heart become so weak as to be no longer felt, and the pulse entirely disappears.

Many women reduced to this deplorable state have been considered as dead, and their sudden return to a healthy state has been thought a resurrection; others have been put in the coffin, and even interred, and the mistake has been discovered too late;

others again have become pregnant, and their pregnancy must certainly have seemed to themselves very miraculous.

It happens rather frequently, that the attacks of hysterics terminate by cries, tears, bursts of immoderate laughter, and a discharge of limpid and very abundant urine. It is useless to remark, that this last phenomenon is no way susceptible of being feigned.

You have seen that the irritation of the uterus produces that of all the other viscera; now you must know, that the influence is reciprocal; and then you will understand, why the moral affections, indigestions, in one word all the irritations of the head, chest, and digestive organs, awake the dormant activity of the uterus, and determine paroxysms, this organ re-acting immediately on those which have brought it into play. The first paroxysm proceeds always from the uterus; but when women have contracted the habit, every kind of irritation may provoke them; so they often appear after the use of exciting aliments, spirituous liquors, and coffee, particularly if the stomach is very irritable.

S. These are valuable documents on the affections of hysteria; they seem to me extremely fit to give an idea of all kinds of nervous diseases, for this is composed of all the nervous phenomena imaginable; and I perceive, by the distinction you have made of the phenomena susceptible of being counterfeited, to what degree enthusiasts and fanatics have

been able to carry their dissimulation, under some particular circumstances.

P. It may be also useful, sir, to inform you, that in exciting actively the brain by the will, and feigning convulsions, real ones may be acquired, which become habitual, the cure of which may offer as many difficulties as the spontaneous. You may judge what degree of light this fact may throw on those sorts of convulsive contagions, of which the ages of fanaticism and uncivilization have shown us so many examples.

S. And what means have you by which to overcome all these nervous affections that you have described?

P. That shall be, if you please, the subject of another conversation.

DIALOGUE XII.

GENERAL PLAN OF TREATMENT OF NERVOUS DISORDERS.

SAVANT. To-day you are to speak on the treatment of nervous diseases. I presume you are going to develop some new plan; for, if I clearly understand you, there are some other means than æther, flower of orange water, and decoction of flowers of the lime-tree, to oppose to irritation so violent as those of which you have shown me the sad picture.

PHYSICIAN. In the first place, there must be a certainty of the seat of irritation; when that is discovered, it must be attacked by the appropriate means. If the irritated organ be in a real state of inflammation, it is at first treated by emollients, local bleedings, the regimen called antiphlogistic; in short, by the same means which suit inflammations without nervous affections. This simple treatment succeeds always, if it be adopted fairly in the commencement of these maladies. If the irritation do not rise to the degree of inflammation, the same means are still proper; but there must be less bleeding; emollients and diet in general suffice.

When the local inflammation or irritation have been destroyed, the convulsive habit, which survives sometimes, is attacked by certain particular irritants that physicians call *anti-spasmodics;* such are camphor, æther, musk, opium, assa-fœtida, valerian, zinc, and many other substances, of which the detail and mode of administration would lead us much too far; but it is needful to add, that these means are seldom of permanent and decisive utility; the greater part of the time, they only serve to disguise the evil, in bringing about the temporary revulsion, and very often augment it; finally, after the antiphlogistic means, the most efficacious are, the exercise of the muscles, diversion, travelling, and especially the firm and constant resolution, no more to yield to the impulses which determine the convulsions.

S. How can the exercise of the body remedy pains and convulsions?

P. By forcing the muscles to act under the influence of the will, one succeeds in rendering them less susceptible to obey the stimulation of the viscera, which are rendered less irritable; the digestion is increased, as likewise the nutrition and the depuration of the blood, whilst at the same time the nervous activity is blunted; for it is clearly proved, that when an individual expends much vital action in voluntary motion, there remains with him but little for sensation and for involuntary motion. In a word, bodily exercises in the open air draw man towards his primitive constitution, and give less hold to causes that

tend to excite this burthensome sensibility, the common mother of all nervous affections.

When the state of paralysis has succeeded to the nervous super-excitations, stimulants, such as blisters, the application of caustics, &c., are proper to be employed on the parts which have lost all motion and sensibility; but if the branch of the paralyzed nerve can be excited with advantage, it is not so with the disorganized trunk; nor the brain, when this is the seat of the evil. We have seen, that it was then altered by the consequences of a prolonged inflammation. This disorganization consists in the softening, the suppuration, or induration of a point of its substance; sometimes in a rent occasioned by the extravasation of blood, &c. When these disorders are not of very great extent, nature operates towards their cure, but she requires for this a very long time. It behoves us then not to interfere with her, by irritating the brain and provoking a fresh effusion, a new irruption of fluids; in short, a new inflammation in those points where the scar was closing. Now, all these pretended specifics, that are internally administered, never fail to produce these sad effects; and when a person paralyzed is cured during their use, it is in defiance of them, and not by those supposed remedies, that success is obtained: therefore, no anti-apoplectic elixirs, eau de Carmes, decoction of arnica, nux vomica, mineral, sulphureous, or ferruginous waters. In irritating the stomach, these drugs irritate the brain, and prevent the accomplishment of the cure; they even not unfrequently determinea relapse. We

banish also the saline and purgative waters, aloetic pills, the *grains de santé*, and all drastic preparations, destined to support a mild diarrhœa, under the pretext, that the humours must be called from the head to the intestinal canal. The consequence of this practice is, to produce a chronic inflammation of the stomach and intestines, without in the least diminishing that which works the destruction of the brain, and to prepare for the patient an attack of apoplexy, against which there is no remedy. The surest treatment is not to use internally any irritant, and to keep to a light diet, which can support the patient without causing a super-excitation, to remove him from all intellectual labour, and to let him enjoy the benefit of the open air, seconded by an exercise proportionate to the strength he has remaining. Intemperance, and the excessive use of fermented liquors, never fail to cause, at the end of a certain time, a relapse, always mortal to paralytics whom apoplexy had hitherto spared.

Revulsions applied to the back of the neck, near the brain, are useful; for instance, after the employment of anti-phlogistics a seton may be placed there, cautery, or moxa be burnt. These same means are suitable, with the same precaution, near to a nervous trunk, which the chronic inflammation threatens to disorganize; it is in this way that they are applied to the hip, in nervous sciatics, to the arm, elbow, and fore arm, in the nervous affections of those parts; to the temples, in those of the eyes, eyelids, and so on.

Practitioners can still oppose to these last disorders certain energetic stimulants, whose action may be considered as revulsive; such is the mercurial friction, pushed on to salivation, dry cupping, scarifications, baths called *douches* *, and many topicals more or less irritating and rubefacient.

S. I am quite astonished to see so much resemblance between inflammations and nervous affections. However, the way in which you have connected the facts relative to these two orders of diseases, appears to me very natural. At least, I do not conceive myself sufficiently instructed in medicine to attack it. But speak to me frankly, make up for my ignorance, and oppose to yourself those objections which a physician might make to you.

P. The only one that may be made with some appearance of being founded, although it be no more than specious, is this, that many nervous affections being moveable, they cannot be attributed to one point of inflammation. But let us defer till tomorrow the solution of this objection; for, in order to prepare you for it, I shall have occasion to recal to your memory a great part of the questions that we have previously discussed.

* *Douche*, a bath in which water is poured on the part affected. *Note of the Translator.*

DIALOGUE XIII.

GENERAL CONSIDERATIONS ON THE MOVEABLE IRRITATIONS. THEY ARE ALSO THE CAUSES OF NERVOUS AFFECTIONS.

SAVANT. Well, doctor, how shall you proceed to extricate yourself from the embarrassment in which you placed yourself yesterday, out of compassion for my pitiable ignorance?

PHYSICIAN. I will extricate myself, sir, by telling you, that the irritation which raises motion, sensation, and which draws the humours to any part of our body, is not always of a nature to follow up its destruction to suffocation, gangrene, induration, in a word, disorganization. When it has these characteristics, it is called inflammation or sub-inflammation, according to our language. It is what has occupied us since the commencement of our conversations. But sometimes the irritation is moveable; so that after having acted a certain time on one membrane, it deserts it, to make its appearance in another, or else it returns constantly to the same point; after having left it in a state analogous to that of health or a primitive state. Well then, these

changeable irritations going from one place to another, or affecting always the same place, differ but very little from fixed irritations; they are produced by the same cause, they yield to the same curative means, and if they are exasperated by stimulants, they intermix or complicate entirely with them.

S. I see indistinctly a new series of propositions proceeding from your physiological doctrine; but I know not with what facts they must be coupled. I beseech you to express yourself in a language suitable to my capacity.

P. These irritations, which I told you were susceptible of being transported from one texture to another, appear under different names in the authors that have treated on them. To give you an idea, I select the gout and rheumatism; you know that physicians consider them as inflammations, notwithstanding their great mobility, because, during the stay these make in an articulation, there is observed in it redness, heat, and pain. Well then; this changeable irritation sometimes becomes fixed in one of the parts which it was in the habit of leaving, or in a new situation; and from that time acts as if it had never been moveable. Moveable or fixed, the gouty irritation depends always on the same causes; moveable or fixed, it ought to be combated by the same means. You thus see, that there exists a great analogy between fixed and moveable irritations. Observe now their affinity with nervous affections. When a like irritation changes position, it produces different nervous phenomena, according to the va-

rious textures it affects. Let us take again for example the gout; in a foot, the irritation causes pain and nervous starting of all the muscles of the limb; should it be carried to the head, there would be one or several cerebral nervous symptoms; should it pass to the texture of the stomach, you must expect nervous affections of the interior functions, and so on.

S. I follow you without difficulty; but why do you bring me back to the phenomena of the gout, on which we have already been so much occupied?

P. That you may set out from a fact which you know, in order to render more easy the comprehension of what is unknown to you; and to prove, that there is nothing isolated in the phenomena of disorders, which together constitute what is called pathology. You shall understand me.

It is not necessary that an irritation should be commenced in the articulations, and bear the name of gout, to be moveable and become fixed after having been on the move It manifests itself every day under the influence of cold, heat, passions, food, beverages, and stimulant medicines. After the disappearance of tetters, the suppression of hæmorrhages, &c., there are manifested, we say, irritations that begin as gastritis, and in a few days afterwards are replaced by the appearance of an inflammation of the brain, which yields in turn to an inflammation in the loins, bladder, or uterus, to which succeed the symptoms already observed in gastritis. Now, as the irritations are slight, they disappear quickly; and as the organs they occupy are out of sight, they are

very soon considered in another light than before, and there is no longer any inflammation seen. It is true, if practitioners could have seen the organ that these occupy, as they see the joint that suffers by the gout, there is no doubt that they would have said, this organ is inflamed, since they said so of a gouty toe. But not having this organ beneath their inspection, they have not been able to recognize, by the sight and touch, the swelling, redness, and heat; they could only calculate its state by the pain, and the spasmodic convulsive movements. But pain situated in a viscus is seldom very acute; obtuse or piercing, it is always attended by other pains that are in relation with organs more or less distant, and often with the exterior of the body, in the muscles, the skin, and bones; to these pains, which are generally much stronger than those of the disordered viscera, are often added convulsive movements in the surrounding muscles; all this forms a group of symptoms, which gives no idea of the state of the organ primitively attacked. The physician qualifies this disease as nervous. The next day, if the internal point of irritation is no longer the same; if the pains, convulsions, and extraordinary sensations of the patient have changed, (because every viscus, and even every part of a viscus, are joined by particular affinities with certain other viscera, and with different regions of the exterior of the body); on this view, the practitioner who sees the second point of visceral inflammation no more than he saw the first, believes that he has to contend with a second nervous affection; he grows

at last accustomed to this mobility, to this variation of symptoms; he considers these last in a collective manner, and he makes of them a disorder of pains and movements, which he places with those of the nerves in general, and which he calls nervous.

S. I have attentively followed the thread of your reasoning, but I feel that I am ready to lose it; and I shall remember nothing of your theory, if you do not render it plainer by examples.

P. I shall give you some. What I have just laid before you, are facts analogous to those of the gout. The irritation, in this case not preceded by attacks of gout, is established in the interior of the stomach; this viscus is hot, red, tumefied, and as sensitive as a gouty toe; then pains in the forehead, arms, between the shoulders, and fatigue in the limbs: the irritation of the stomach predominates at the pylorus (right extremity of the stomach), pains under the right nipple, at the shoulders, appearance of disorder in the right lung; it passes to the cardia (left extremity of the stomach); pain in the correspondent hypochondria, proceeding to the shoulder, to the left arm plate, appearance of a pleurisy of this side; the irritation is situated in the first intestine which follows the stomach (duodenum); pain in the liver; this proceeds also to the shoulder: the flow of the bile is stopped; jaundice; at length, the liver is attacked; if this point of irritation continues, it is transferred to the heart, which is tumefied with blood, causes pain, anguish, palpitations, difficulty in walking; it occupies the bronchia;

these canals become red, and hot; they contract; the respiration is short and hurried; paroxysms of asthma; the irritation prevails in the brain, stunnings, or numbness of the senses; various pains, convulsive movements of the muscles corresponding to the part most affected, as we have seen: delirium, and, if this continues, madness: the irritation starts suddenly to the kidneys: nephritic colic, with vomitings, and pains propagated to the thigh; convulsions of the corresponding cremaster muscle; retention of urine, and, if this continues, gravel; the irritation proceeds to fix itself in the bladder; this becomes red, swells, and grows so irritable as to oblige the patient to make water every minute; pains, itching at the extremity of the penis. If the patient be of the female sex, if the irritation be cast on the uterus, this organ developes the nervous phenomena which are peculiar to it, and attacks of hysterics will be then observed. Figure to yourself the irritation repeatedly returning to where it was before seated; varying in intensity on each return, and you will have a notion of mobile nervous affections, of those diseases to which physicians assign no particular seat, which they place vaguely in the nerves, and which, above all, they take care not to compare with inflammations.

S. Now I understand you thoroughly, and I think I can make you an objection of my own. Who assures you that all these nervous phenomena depend on one point of irritation in the viscera, since you have not these viscera before your eyes? How do you

see more clearly than the physicians that have gone before you?

P. I expected this question. It is by the comparison of similar cases, the observation of the effects of curative means, and the opening of bodies, that we are arrived at this conclusion. For instance, our adversaries, in irritating the viscera, which we suppose are already too much irritated, and which we regard as the primum mobile of nervous affections, aggravate daily these nervous symptoms, whilst by refreshing and calming the irritated viscera we make this same affection disappear; finally, whenever death gives us the means, we show incontestable proofs of traces of the presumed inflammation.

S. But have you not told me that the moveable inflammations, such as those which produce nervous affections, are slight? They cannot then become mortal?

P. They are slight in the beginning; but when, instead of curing them, they are exasperated by tonics, anti-spasmodics, and other improper means, they have the fate of the gout; they become fixed. I would say, that a slight irritation, after having for a long time moved about, becomes stronger in a viscus and can no longer be expelled; disorganizing it, in a chronic or slow way, by producing nervous phenomena, which depend on affinities or sympathies of the viscera with other organs.

S. And the old physicians were not aware of this?

P. As long as the irritation was mild and movea-

ble, they only thought of the variety of nervous symptoms that it caused, and only treated it as a nervous complaint, that is to say, the effects of the local irritation, and almost always by means that tended to aggravate it. When the irritation became fixed, and was about to work disorganization, they pronounced that the nervous disease had produced an organic defect; or if they were more subtile, that there was only a coincidence of an organic defect with a nervous affection

S. These are extraordinary circumstances; you make me afraid of acquiring a certitude, that medicine deserves the reproaches levelled at it by those who cultivate the positive sciences.

P. I shall furnish you with many other proofs of the futility of the old practice of medicine. Permit me to continue the development of my subject, by treating of moveable irritations that are apt to return to the same seat.

S. I desire it much; for I hope you will express yourself in such a way as not to leave any doubt on my mind.

P. I will do all in my power to be explanatory.

S. To-morrow, then, if you please.

DIALOGUE XIV.

INTERMITTENT FEVERS.

SAVANT. It is in vain that I have taxed my memory; my medical knowledge has not furnished me with any instruction concerning what you call moveable irritations, which are apt to return to the same seat. Be so kind then as to relieve my embarrassment.

PHYSICIAN. You have, however, an idea of intermittent fevers?

S. Certainly; it is sufficient to recal to my mind, that I suffered from an intermittent fever a long time in my youth. But your question also brings back to my memory, what my physician said to me of this disorder: he pretended that it absolutely perplexed the new system of medicine. If I think right, the partizans of the physiological doctrine have not given a satisfactory explanation of it; so that many, who had adopted this system on other points, have not been convinced on this, and follow still the old routine.

P. All those who have attended the lectures of the professor of Val-de-Grace, or who have only meditated on his works, have been convinced on this

point as on all the others. Physicians who have only superficially examined the subject, are those only who still make objections, which however are easily refuted, as you shall judge for yourself.

S. Is it then the intermittent fevers, that you would designate by the moveable irritations in question?

P. Precisely, sir; the very same: yet in some cases it is observed to change place. But I am about to explain myself.

As you have had an intermittent fever, you know that each paroxysm begins with yawnings, stretching of the limbs, a sensation of lassitude which we call *pandiculation*, and shivering. You know, that while the shivering lasts, there is experienced a sensation of compression and uneasiness internally, especially at the pit of the stomach, or at least at the central point of the trunk beneath the chest.

S. Yes, certainly; I felt all that.

P. Well then; it implies that the blood accumulates abundantly in the viscera of the chest and abdomen, principally at the region of the stomach; and that it diminishes as much in the limbs, and in all the circumference of the body. Now, what calls the blood into the viscera is the irritation; I mean to say, that the vital action augmenting on a sudden in the internal organs, the blood rushes there, and abandons the external parts, which become more sensible to the action of cold, and ought in consequence to tremble, as if in fact the air was not sufficiently warm to support the ordinary tempe-

rature of the skin. In other language, this visceral congestion, in conveying the blood from the skin, renders the patient chilly and causes his shivering.

S. Is not that an hypothetical explanation?

P. The proof that it is not is, that every time this same congestion takes place, for instance, in the first attack of continued inflammations, after a hearty meal, in certain violent affections of the mind, as fear, &c. the same shivering manifests itself.

S. I can easily conceive that; if your explication is just, the shiverings that you spoke of ought not to take place when the temperature of the atmosphere is very high.

P. Say when the medium where the skin is placed is of a very high temperature; for instance, would you put an end to the cold fit of an intermittent fever, it is quite enough to plunge the patient in a very warm bath; as to the air, it is seldom warm enough to prevent entirely the febrile cold fit; but it is always observed, that this phenomenon is without comparison more intense in winter than summer, in the morning and the evening than at mid-day, in a cold bed than in one well warmed. It is the same with the shivering of digestion: it is almost always reduced to nothing in the summer; and if, during the winter, the room occupied be well warmed, it is not felt, whilst it is very strong on exposure to the fresh air as soon as the meal is over. All this tends to prove to you, that the febrile shivering depends on a congestion of blood in the viscera; and as the blood does not move about of itself, but constantly repairs whither irritation calls it, these facts equally prove,

that the congestion in point is produced by a visceral irritation. Let us now see what follows this first modification.

The irritation of internal organs, and especially the gastric channels, forcibly excites the heart; the circulation is much more accelerated than in the natural state, which it is more convenient to call a primitive state. The blood is repelled towards the exterior, and the sense of cold disappears to give room to a sensation wholly opposite; the skin becomes high coloured, burning until the violence of the sanguineous impulse has forced its pores to expand, and allows the perspiration to flow, which bears away all irritation and terminates the paroxysm. You now understand how this termination may be hastened, by the immediate application of heat to the skin.

S. Yes, sir, I conceive that; but I cannot conceive why the irritation, which you say suddenly arose in the viscera at the commencement of the paroxysm, did not at first heat the skin, since it makes the heart beat with more celerity.

P. It is because the blood obeys the first irritation which developes itself: now, this is that of the viscera; then the first flow of blood propelled by the irritated heart must be carried thither; but when the viscera are gorged, the blood, always sent forth with more violence by the heart, flows back to the external parts, and gradually heats them again. We must also calculate the sympathetic influence transmitted by means of the nerves of the visceral surface, particularly those of the

digestive channels, to the skin. For it is demonstrated in pathology, that the irritation of those surfaces is soon repeated in the cutaneous texture.

S. Why do you place the digestive organs in the first rank, in the production of the phenomena of intermittent fever?

P. Because the stomach is more actively affected than the remaining viscera in ordinary intermittents; in fact, as soon as the paroxysm is begun, the appetite disappears, and is succeeded by thirst; now this proves, that the surface of the stomach is heated, and experiences a commencement of inflammation afterwards; because, in cases where ordinary intermittent fevers become continued, they are confounded with acute gastritis, or the continued fevers of authors; finally, because, when intermittent fevers are of long duration, the digestive functions become impaired, and the stomach as well as the intestines are in the same state as they are found after chronic gastritis.

S. But the remaining viscera; do not they also experience similar modifications?

P. In common cases, their functions are found little deranged; but there are some intermittent fevers in which the congestion is stronger in the lungs or in the head than in the digestive organs. These cases are very easy to be known by the pain, heat, and plenitude that is felt in these organs; and if the progress of these fevers be not arrested, the congestion becomes permanent in these same organs, and they suffer, as I have told you of the digestive organs, a genuine continual inflammation:

then the intermittent fever changes into pneumonia, pleurisy, or inflammation of the brain, just as it changes into gastritis, or acute gastro-enteritis, when the congestion is perpetuated in the digestive organs.

S. What justifies this opinion?

P. The success that has attended bleeding and anti-phlogistics; or the examination of dead bodies, which show here the same ravage as follows inflammations, which have not been preceded by intermitting irritation.

S. I perfectly understand you; but pray tell me, how are pernicious fevers related to the explanations you have just given?

P. Allow me first to ask you what notions you have formed of these fevers from your books?

S. They have given me to understand, that they are fevers whose paroxysm is attended by nervous symptoms so severe, that patients generally die of a third fit, if the disease be not combated by Peruvian bark.

P. This theory is not correct, as shall be shown.

Every time the irritation which determines a paroxysm of fever is excessive, the organ that is the seat of it experiences a considerable congestion; the functions of this organ are much deranged; the patient feels in it great pain, as well as in those textures that sympathize most with it; the re-action towards the interior, which ought to destroy the fit, has great difficulty in doing so. If the paroxysm be repeated, it ends by no more taking place; the affected organ keeps the irritation; and it passes into a state of continual inflammatory congestion; if this last be violent, the organ is destroyed; if it be very

acute, the destruction produces that of all the others, and death occurs before the inflammation has had time to run through all its stages; but if the irritation be less intense, or the organ of less importance, this inflammation is prolonged, and confounded still with those which have not manifested intermitting symptoms in their commencement.

I will render all this evident by example: a congestion too acute in the stomach causes nausea, vomiting, and excruciating pain at the epigastrium; on the intestines it produces violent colic, diarrhœa; if partaken by the liver, it occasions pains in that region, flow or vomitings of bile; too powerful in the lungs, this congestion causes cough, symptoms of catarrh, or fluxions of the chest; in the head, it causes delirium, rage, symptoms of apoplexy; in the heart it retains the flow of blood, and causes syncope, an icy coldness of the skin, with anguish at the region of the heart. If it predominate in the hæmorrhagic channels, this congestion produces loss of blood, by the nose, or by the organs I have just mentioned. This is not all: the irritation of a paroxysm may leave a texture where it is ordinarily seated, and declare itself in others, which causes different symptoms; for instance, in the pleura, symptoms of pleurisy; in the peritoneum, those of true peritonitis; in the nervous trunk of a limb, nervous pains, &c. &c. Now, such are the phenomena that characterize these pernicious fevers of authors; you see they differ only from the benign by a higher degree of intensity in the periodical irritation of the

viscera, or of the other textures ; imagine that these breed permanent congestions, and the patient will succumb, or be afflicted with a continued inflammation.

S. But how reconcile this theory, founded wholly on inflammation, with the success so vaunted of Peruvian bark in the fevers in question?

P. This great success, sir, is far from being constant. It very often happens that the bark changes the intermittent irritation into continued irritation ; or, in suppressing the paroxysms, the bark leaves a chronic inflammation, that has all the consequences of those of this species which have not been intermittent.

S. You declare yourself against the observations of the most enlightened physicians.

P. Why not, since facts speak against them ? The histories they have left us of epidemics, and of intermittent fevers, abound with cases where these disorders have degenerated into putrid and malignant fevers, or in very dangerous inflammations of the head and lungs ; and if the majority of patients that have been cured of pernicious fevers by aid of cinchona, and other tonic means, are examined, they will be found all cachectic, with large spleens, enormous livers, oppression, cough ; or otherwise they are in a state of dropsy and scurvy. Now all these infirmities are the produce of chronic inflammations of the viscera, which the stimulant action of the cinchona has substituted for the periodical irritation at the commencement. These disorders have

always perplexed physicians; and, from the most distant ages up to our own time, they have tortured themselves to explain the oppressions of the viscera, to determine that they were the effect of these fevers, or of febrifuges, and if it was not better to abandon an intermittent fever to itself, than to suppress it; they have equally endeavoured to discover remedies for the remains of these fevers; but their labours have always been lost.

S. But to what cause do you attribute these obstructions of the liver, spleen, lungs, and mesentery?

P. When the intermittent fever becomes continual, with fever in the state of acuteness, that is to say acute, it changes, as we have said, into acute inflammation; when it becomes continued without fever, it is a chronic inflammation, or sub-inflammation, which perpetuates visceral congestions, before temporary, and alters them into what are called *obstructions.* In fact, the blood and lymph remain accumulated in the liver, spleen, mesentery, and in the texture of the lungs, no longer with a strong heat, but with an obtuse irritation, the destruction of which is then very difficult; and all this happens only because, instead of calming the irritation in its commencement, it has been allowed to fix, or it has been fixed in the viscera by the cinchona.

S. Then you would treat all intermittent fevers, without excepting the pernicious ones, by bleeding, diet, and emollients?

P. We are very far, sir, from despising the fruits

of experience; we know that the cinchona may succeed in these fevers, when it is administered under favourable circumstances; but the point is, to give birth to these circumstances; and we flatter ourselves, that in this point we surpass our predecessors. We have besides this advantage, that the means we employ to obtain them very often dispense with our having recourse to this remedy. I proceed to develop to you our theory, and I venture to believe that you will be satisfied with it. I begin with the causes of intermitting irritations. I have demonstrated to you, that all irritation, developed suddenly in the viscera, produces shivering, and consecutively, by a true re-action, the external heat of the body. Well then; let me now tell you, that whatever renders the skin cold in a direct manner, oppresses likewise the viscera, and you will comprehend, that cold must tend to produce intermittent fevers and phlegmasiæ. In fact, the state of oppression being once produced, if it continue, it becomes an inflammation; if it terminate by perspiration, and if it return after one, two, or three days, it is an intermittent fever. Now, among the numerous causes of inflammatory visceral congestion, there is one that more frequently occasions intermittents than all the others: this is a frequent vicissitude from cold to heat, or heat to cold. Intermittent fevers will therefore be very frequent in the seasons of spring and autumn; in marshy countries, where the night air is charged with humidity, causing a contrast with the heat of the day. Now before being attacked by

these disorders, those who experience them have been several times subject to the influence of these vicissitudes; often they have become cold, after having been warm; or suddenly heated, after having been cold. At first, they supported these alternations without suffering, but ultimately they become morbid. The visceral congestion inseparable from all frigidity changes into a sickly irritation, which produces a shivering of the same nature, and the heat which succeeds ceases to be that of health, and is transformed into a true febrile heat. If this continue, there is a phlegmasia; if it give way to return again, there is an intermittent fever. The chance is uncertain at the first attack; for there is no epidemy of intermittent fever, that is not attended by a great number of phlegmasiæ. You see then, in these cases, the causes of all those disorders are the same; you have already seen, that the intermittent febrile irritation is often changed in its course, that is to say, into inflammation; the analogy existing between these two modes of irritation cannot in future escape your observation. These facts being laid down, we come to the mode of treatment. The first care of the physician ought to be to remove the sick from the influence of these atmospheric changes; and such is the importance of this first aid, that at least one half of those who are become feverish in a marsh, are cured, if they are compelled to quit the spot immediately after having contracted the disease.

The second caution that a physician should observe

is to ascertain, whether, at the end of the paroxysm, that is to say, after the sweating, there remain an irritation in the viscera. If there be no sign of any, and the congestion is not too violent, or approaching too nearly to inflammation, he may prescribe cinchona in the intervals of the paroxysms, which is called *apyrexia;* in this way he raises an artificial irritation, which prevents that of the next paroxysm: this is a revulsion. He may also oppose the first paroxysm that presents itself, by bleeding performed during the hot stage, the nearest possible to the viscus on which the congestion acts; and in the most ordinary cases it is the stomach. So intermittent fevers are often seen to yield to the first application of leeches to the epigastrium. Many physiologist physicians return to them as often as the congestion is repeated, and perfectly cure the disorder. However, if this plan does not succeed, recourse must be had to cinchona, which has so much the more effect, as the antiphlogistic treatment has been more freely employed. So much for the mildest intermittent fevers.

If, although the apyrexia be complete, the congestions betray an extreme violence, the antiphlogistic treatment deserves still to have the preference. This is the case with a variety of fevers which pass for pernicious, and nevertheless yield completely to bleedings; whilst, if the practitioner at first meets them by bark, he makes of them malignant and putrid fevers, to his great astonishment at having been deceived by the authors who served him as

guides. If after the termination of the access, that is to say, after the perspiration, there remain irritation in the viscera, no choice is left: bleedings and antiphlogistics must be strictly employed. The bark might change the periodical irritation into continual. Let us explain these cases. We most often observe an irritation of the gastric system, which persists after the access, and which is marked by symptoms already known to you: these are, a bitter taste in the mouth, redness on the tip of the tongue, which is commonly foul and mucous at its centre, aversion for aliments, pain in the head, weariness in the limbs, weakness, low spirits; a pale and yellowish complexion, intermixed sometimes with a livid red. Are not these the symptoms of the malignant fever of authors?

S. Undoubtedly; and I experienced them all after my first access of fever; but they were carried off by an emetic.

P. And what was the consequence?

S. That I experienced pain in the stomach, thirst, and that the paroxysms became more violent, which rendered it necessary to let the fever take its course, for seven days, before the Peruvian bark was given me.

P. And when you took it, did it quickly carry off the fever?

S. It removed it, but I did not recover my appetite; the access returned several times, after having yielded to the febrifuge, and I was only cured by walking into the country, to drink milk. The disorder lasted six months.

P. Well, sir; if, instead of giving you an emetic, you had had about thirty leeches applied to the pit of the stomach, called the epigastrium, either the fever would have been removed, or it would have yielded to the first doses of bark administered to you. You would, besides, have had the advantage of recovering your appetite, after the local bleeding.

S. I have no reason for affirming the contrary; yet I have seen cases in which emetics have succeeded.

P. There must certainly be some with whom this treatment succeeds, otherwise the emetic would have been long since abandoned; in these cases, however, the stomach has been but feebly irritated, and the cure has then taken place by revulsion; but no practitioner will be able to warrant it at first sight, even in cases where the stomach is not in a state of inflammation. Referring to the cases where this state really existed, the least evil that can befal those who have taken emetics is a prolongation of the disorder, often much more considerable than that experienced by you. Again, if physicians had limited emetics to the first cure, they would not have deserved such serious reproaches; but, as they knew not that disordered stomachs, attended by fever or pyrexia, were inflammatory irritations of the stomach, they opposed to them indiscriminately the same treatment, and thus rendered the cure of intermittent fevers so difficult.

You have now seen what must be done, every time the signs of this derangement of stomach with-

out fever present themselves, in the intervals of paroxysms; but there are various cases, where the irritation which produces this derangement is carried to such a considerable degree as to keep up a febrile movement. Patients find added to the want of appetite, a foul taste in the mouth, &c.; the frequency of the pulse, heat of the skin, faltering strength, in a word, the apyrexia is not total which does not prevent, in the course of a day or two, the cold fit from reappearing, followed by a considerable augmentation of heat and perspiration; after which the patients have still, as at first, a quickened pulse, and the symptoms of inflammatory irritation of the gastric channel.

S. These are cases singularly complicated.

P. It is possible that they may be still more so; for in the shade of the disorder I have described, there is but the gastric irritation that maintains the fever between the paroxysms; but there are some others where the head, lungs, or some other viscus are also, during the remission, in a true state of inflammation, which joins that of the gastric channels, to support the fever in the intervals of the paroxysm. You will clearly judge, that under these circumstances, this access must acquire a high degree of intensity. As for the rest, the symptoms which these different congestions present shall not detain me; since they are always, either in the paroxysms, or during the apyrexia, the same as those of continual visceral inflammation, which we have already examined.

S. I have never heard these sorts of complications mentioned.

P. Excuse me, sir; you have seen them in authors under the title of *remittent*, *hemitritæi*, *subintrantes* fevers. These names were given them, because the fever did not leave totally, confining itself to a diminution called *remission*. Authors have supposed there was, in these cases, complication of an intermittent, with a continual fever of the bilious, mucous, putrid, or malignant kind; and as the treatment they applied to them was nothing less than suitable for bringing about a cure, they dreaded them much, and classed them most frequently with the pernicious fever.

S. Certainly I have found remittent fevers in authors; I was even much surprised that you had not spoke to me concerning them, and I was going to ask for your opinion on the subject, when I found it unexpectedly before me Well, how do you treat these disorders?

P. This treatment follows naturally that of the pretended disordered stomach with pyrexia; but it ought to be more energetic. There must be copious bleeding, by opening a vein, if the plethora is considerable, and the blood is accumulated in the head or the chest. After this, we finish by carrying off the visceral irritation by leeches placed on those parts that suffer most; all food is withdrawn; nothing is allowed but the use of aqueous and emollient beverages, and all irritating medicaments are set aside. This plan is in general followed by a

prompt cure, when the irritation has not lasted long enough to disorganize the viscera; but if it does not succeed to remove the paroxysms, at least it renders, in a short time, the remission much more mild. Then the physician, having ascertained that there is no longer any trace of permanent inflammation between the paroxysms, being assured, by the paleness and largeness of the tongue, returning appetite, and cessation of uneasiness, that, notwithstanding the frequency of the pulse, the mucous membrane of the stomach is not phlogisticated in the remission — the physician, we say, administers boldly cinchona, or any other stimulant; and the cure is seldom prolonged beyond two or three days.

S. This theory appears to me quite rational: I never should have thought, that, in the chaos of intermittent and remittent fevers, it could have been carried to such a degree of clearness and precision. What I had read on the subject had left in my mind many points unexplained. I believe the resistance of these disorders was attributed to the noxious effects of certain miasmata exhaled from marshes; and when the bark was slow in removing them, the greatest perplexity was the consequence. But pray tell me, what febrifuges can be successfully substituted to cinchona?

P. Cinchona is the most efficacious remedy that can be opposed to this periodical irritation, especially when administered under the form of sulphate of quinine; but it is far from being the only one. The ancients, unacquainted with this remedy, treated these

fevers by bitters. There are used with success, wine, spirituous liquors, aromatics, opium, æther, emetic tartar combined with opium, in a word, all that stimulates the stomach; they are likewise combated by external irritants, such as sinapisms, blisters, frictions with the spirituous tincture of cinchona, with opium, with the emetic tartar, &c. These topical applications are reserved for cases where the irritability of the stomach repels stimulants; then we must confine ourselves to the use of emollients internally, and prescribe an appropriate diet. It is very well under similar circumstances to remove cold by warm baths or vapours, and to moderate the hot period by the application of ice or cold water on the epigastrium; but to employ this, the lungs must not be too much irritated, for in that case the cold would engender peripneumony or pleurisy.

S. And what would be the consequence, if, instead of calming the visceral inflammation, which continues between the paroxysms, and which produces the remission, the bark were to be immediately administered?

P. The consequence would be, that the remittent fever would be changed into continued, and for the following reason: the fever only suffers a remission, because the visceral irritation is diminished for some time, in intensity; but you stimulate the viscera, the seat of it. Then you raise their irritation to a degree of activity, that no longer allows it to descend to a periodical diminution; that is to say, you make of it a continued consecutive inflammation,

which in no wise differs from inflammations equally acute, which have never shown either remission or intermission; this fact attests the analogy existing between these two kinds of irritation. There are, nevertheless, cases, where the intermittent or remittent visceral phlegmasia, which has not been combated by antiphlogistics, loses its acute state under the influence of cinchona, but it is only to be converted into a continued chronic phlegmasia, which produces very soon an obstruction of the liver, spleen, lungs, and the coats of the digestive canal. This double consequence is very frequent in the practice of the ontologists. It is equally observed in fever, where the apyrexia is complete, that is to say, in the perfect intermittents of every type, when the cinchona is given in too small doses to cause the cessation of the periodical irritations, because its use must be continued for a long time. The gastric channels, by being too much stimulated by medicine, contract a chronic phlegmasia, which renders nutrition languid, is often repeated in the other viscera, and ultimately causes dropsy. Completely to cure fevers, where periods are redoubled, the inflammatory state which continues between the paroxysms must be promptly removed, and then cinchona given in strong doses during the continuance of the apyrexia. This method dissipates the fever before the remedy has had time to inflame the digestive organs; and if the determining causes are withdrawn, there is no fear to be entertained of a relapse.

S. This is very well; but tell me, I pray, how you manage it, when an intermittent fever, ill treated, has produced engorgements, obstructions, and this state of languor which you have described to me. If I well recollect my authors, I think they have recourse to resolvents, aperients, and even to tonics.

P. Your memory has served you well, sir; they employed, in fact, all these drugs; but as they are irritating, they never succeeded. The affections of which you speak, being always chronic phlegmasiæ, it is by antiphlogistics that they should be combated, with the exception of combining frictions on the skin with a tincture of cinchona, and the other external means I have indicated, if the usual periods of the irritation be not yet entirely destroyed.

S. From all I have just heard I conclude, that if your theory be right, for the disorders of which we have before spoken, it ought to be equally so in relation to intermittent fevers; for I plainly see it is always the same: I discover at least the elements of a science which does not exist in the old systems. But I have not forgotten that you promised to give me an idea of aneurisms of the heart: I am anxious to hear you, on account of the importance of these disorders, as well as to see if you can refer them to those on which we have conversed hitherto.

P. To-morrow I will occupy you with the diseases of the heart.

DIALOGUE XV.

DISEASES OF THE HEART.

SAVANT. Welcome, my dear doctor. I have perused the work of Corvisart since our last interview; it has overwhelmed me with fears. I want you to encourage me, if it be possible. His epigraph is always foremost in my mind: *Hæret lateri lethalis arundo.* I have sometimes felt palpitation. May I not already be struck by the fatal dart?

PHYSICIAN. You shall decide for yourself after our conversation. The heart is a thick muscle, situated in the centre of the cavity of the chest, and hollowed into four cavities. It is alternately in contraction and relaxation. Relaxed, it receives the blood carried to it by the veins; the instant this is received it contracts, is condensed by closing its cavities (it is this we call contraction), and repels it to the arteries, which distribute the blood to all parts of the body. More extended details on the structure of this viscus would be useless for our object; but it is right to add, that the muscle is filled with nerves; it receives those which are common to every part of the body; there are some of them derived from the brain, others from the great sympathetic nerve.

Now, since the nerves are destined to transmit the irritation of organs from some to others, you will conceive that the heart ought to participate with all those that are developed in the constitution. You will not be surprised then to learn, that all inflammations rouse the activity of the heart, compel it to precipitate its contraction, and accelerate much the motion of the blood, which increases the heat of all parts. This is what constitutes the fundamental phænomena of the state called fever.

S. The heart must then be prodigiously teased in those who have often inflammatory disorders.

P. So it is; and this is one of the principal causes of its diseases. In the first place, observe, that the same influences which produce inflammation of the lungs, pleura, peritoneum, and of the muscles, I mean to say, the sudden change from heat to cold, and external violence, may give birth to acute inflammation, which in general fixes on its external surface, and which is called *pericarditis*. This phlegmasia is characterized by pain, heat of the affected part, irregularity of the pulse, fear of suffocation, syncope, and even of death; the whole attended by ardent fever, although the pulse be little developed. It becomes quickly fatal, if it be not arrested at the commencement. It sometimes accompanies pleurisies of the left side; when less intense it may become chronic, and maintain a suffocation, followed by incidents analogous to those of complete aneurism, of which I shall very soon have an opportunity to speak.

In a case where the heart is not at first influenced by the causes of phlegmasia, it terminates by participating in the irritation of other organs, and by contracting itself the irritation. After having received it as if it were by a loan, it keeps it, and oftentimes cannot again get rid of it. Here then is a second cause of disease of the heart. Now behold some others.

The heart is strongly irritated by the moral affections, since it receives nerves from the brain, and above all by certain passions, as fear, anger, love, &c. All this produces palpitation, and palpitations imply the irritation of this organ. It is likewise irritated by violent exercises, which cause the return of an extraordinary quantity of blood, by a cough, by cries, forced singing, and by all continued efforts which retain the blood in the lungs, and subsequently in the cavities of the heart; finally by those convulsions, which are so frequent in certain nervous affections.

To this third series of irritating causes of the heart we must add the transport of the chronic irritation of other organs, as the gout, rheumatism, tetters, &c., which often abandon the articulations, muscles, and skin, to be transferred to the texture of the heart, according to the well-known law in pathology, that all the irritations which are prolonged on the exterior of the body tend towards the most active and the most vital internal organs.

The heart having contracted the irritation, by the influence exercised over it by other organs, must ne-

cessarily experience the fate of all irritated textures ; it has its own vessels, its peculiar circulation ; it draws then more blood than usual, and may at first suffer a consecutive pericarditis, more or less similar to the primitive one of which I have already spoken. When it escapes this inflammation it is affected in other ways ; it swells, and becomes so irritable that it is agitated ; it labours, palpitates, causes suffocation, anguish, uneasiness, each time the individual suffers any emotion physical or moral.

The derangement these disorders create in the circulation of the blood produce casualties still more extraordinary ; sometimes they suddenly arrest the progress by a pain in the left side of the chest, more or less extended to the shoulder or arm, which bears the name of *angina pectoris*. At other times the result is harassing dreams, starting in the sleep, or the entire loss of sleep. In short, one of the most common casualties of this constraint of the circulation is a paroxysm of asthma, as I had occasion to mention in speaking of nervous affections of the chest.

The heart, being a very robust organ, may support irritation a long time without being disorganized ; and it very often happens that the symptoms I just mentioned are dissipated, when the quantity of blood, by bleeding, has been diminished ; or when the irritation of the organ that produced it, and maintained its own, is removed. It is thus that hypochondriacs, and hysteric women, are freed from their palpitations, their sense of suffocation, regain a quiet

sleep, and may walk with facility, when, by a treatment wisely pursued, the inflammations of the stomach and the uterus, which deranged the functions of the heart, are removed. This circumstance it is important to note, in order to calm the anxiety of crowds of unfortunate beings, who believe themselves attacked with aneurism of the heart, because they experience, after a certain time, some of the symptoms that I have just described.

If, however, no remedy be employed against the irritation of the heart, this viscus will at last suffer organic derangements. Sometimes these derangements begin with the inflammation of its visceral membrane, which thickens, indurates, becomes ossified, and is covered with vegetations called *polypi* These productions narrow the apertures of the heart, and retain in its cavities the blood which continually irritates them. In other instances, it is the slow inflammation of the large surrounding arteries of the heart which thickens them, straitens their calibre, and opposes a resistance to the blood which the heart sends to them, all which produces again irritation of the coats of the viscus. The permanent stimulation of the heart produces also chronic inflammation of its own arteries, called the coronary, which terminates in ossification.

Tormented by all these causes of irritation, the muscular texture of the heart acquires, in the first place, more force and energy than usual; it is in that state called hypertrophic, afterwards it becomes softer, loses its energy, and dilates: it can no

longer contract with sufficient efficacy to maintain the regular circulation of the blood. This fluid remains stagnated in the texture of the lungs; and the attacks of asthma, which heretofore were temporary, become permanent. The sick are tormented by a cough, some expectorate matter resembling pus, although there is no ulcer in the lungs; it is the irritation of the mucous membrane of the bronchiæ, gorged by blood, which furnishes this production in a similar way with that of catarrh. Others spit blood in more or less abundance, lose their sleep entirely, although they feel a continual want of it; they can execute no movement without experiencing an increasing suffocation, as every muscular contraction throws a greater quantity of blood towards the heart. Their countenances become livid, which is particularly remarked on the lips, that often appear quite black; their bodies are puffed up, and become dropsical; their appetite vanishes, or else, if it be preserved, it cannot be satisfied; every mouthful of food taken adds to the anguish of the sufferers. They at length perish in the most deplorable state; for this kind of death is, without any doubt, the most frightful of all to which human nature is exposed. The induration of the coats of the heart, the development of tubercles in its thickened state, are again the results of chronic sub-inflammation, which are attended with the same consequences as aneurism. The same may be said of hernias and ruptures of this organ.

S. Alas! what a melancholy picture! Is it thus

that you pretend to encourage those whom the works of Corvisart have alarmed ?

P. Remember, sir, that the heart may be a long time in a state of irritation without being disorganized, and afterwards return to its primitive state. This is precisely what is not sufficiently explained in the work you speak of. The affections of the heart are therein considered as the first degree of aneurism, or other alterations of this viscus, so that he who is afflicted with one has no other prospect than death. It is true, nervous affections of the heart, susceptible of being removed, are noticed, but with such confusion as to render it impossible to understand them. The cure alone characterizes them : the reader is not consoled by the idea that the irritation of the heart is similar to that of other organs, that it may yield and return, as well as theirs ; neither by the idea that this organ, with due attention, resists by its vigorous constitution the disorganization, during the course of a long protracted life. This point is nevertheless of the highest importance. Corvisart well knew that many asthmas depended on aneurisms of the heart; but he knew not that the majority of asthmatic subjects, without having an aneurism of the heart, have this organ exceedingly irritable ; and that this irritability, and even hypertrophy, which generally attends it, may continue unto old age ; he was equally ignorant, that the chronic inflammation of the viscera of digestion, and that of the uterus, kept up an excessive irritability of the heart, which

may be removed with these phlegmasiæ ; and truly nothing is more common than these sorts of cures. A disorganization, a mortal disease, a nervous affection of the heart, a matter ill-defined, a kind of inexplicable entity, and which appeared to his readers to be solely a subterfuge, a pretext to hide the truth, and to quiet them ; this was all that the sick learned from studying the works of Dr. Corvisart. You ought now to comprehend the prodigious difference that exists between this theory and that of the physiological doctrine. It is with much reason then that we say we have rectified the notions which were held concerning the affections of the heart, and given to those who are afflicted real grounds of consolation and hope. Remember, that our doctrine has rendered the same service to those who thought themselves devoted to phthisis pulmonalis ; at the same time learn, that those who fear cancer will owe us the same obligations ; and you will be forced to avow, that this doctrine is one of the greatest blessings that Heaven has granted to the human race.

S. I will agree to all that, if you show me how I may know that the affections of the heart have not arrived at the disorganization, and if you teach me how to cure them.

P. As the heart, unless it suffers an acute inflammation, resists a very long time disorganization, this last is only probable after many years of suffering. But there are other means of ascertaining whether the heart has degenerated or not : when the

palpitations, the suffocation in walking, and in bed, the insomnolency, and attacks of asthma, are not continual, and yield easily to bleeding, repose, revulsions; when there is not yet dropsy, or when it is removed by the same means in a few days, then it may be supposed, that the texture of the heart is not essentially altered. Frequently the irritation of this organ is maintained by that of the stomach or uterus; in these cases, the symptoms belonging to the heart disappear as soon as the disease that produced them has ceased, and the patient may be tranquil on the point of organic alterations or defects of the heart.

S. Ha! I feel the truth of this description in myself; for I have well observed that I only suffer at the heart after having used stimulants, and particularly coffee. Do you believe this beverage capable of deranging the functions of the heart?

P. There is no doubt of it, sir; in the first place, coffee stimulates the stomach, and if there be a gastritis, it prevents its cure; it equally carries irritation to the heart, agitating it, causing palpitations, and, to use a vulgar expression, stirring up the blood. By this very excitement, which supposes that of the nervous system, sleep is interrupted, and uneasiness occasioned during the night. There is not one nervous person, sensible, or attacked by an internal inflammation, that can with impunity take coffee. It should above all be considered as very hurtful to the functions of the heart; and since you have a sensibility of this organ, you would do

perfectly right to abstain for ever from the use of it.

S. It is unfortunate; for the flavour of coffee is delicious, and its first impression produces a sensation so agreeable, as to render the mind more active, and facilitate intellectual labours. Thus it has been called the *beverage of literary men.* But since this nectar attacks the heart, I will follow your advice, and take care to abstain from it. Inform me now what are the other precautions necessary to be taken, in order to oppose the progress of affections of the heart.

P. Use only light food, for fear of engendering too large a quantity of blood; for all those who are plethoric have the heart irritated; avoid efforts and violent exercises; be moderate in all your pleasures, especially those of love; preserve yourself from cold as well as excessive heat, and quit hastily the place where crowds are assembled in too small a space; lastly, be bled when the symptoms of irritation of the heart become constant.

S. Have you no specific which can directly act on this organ? I like specifics, and am tempted to reproach you for not having admitted them in the treatment of diseases which have been the subject of our various conversations.

P. For once, sir, you shall be satisfied. There is a plant called *digitalis purpurea:* the influence which this medicine exercises over the heart is diametrically opposite to that of coffee; for it abates the pulsations

of this organ, almost as promptly as coffee accelerates them.

S. How fortunate! then I shall have nothing more to dread concerning diseases of the heart. Have you seen positive cures performed by the *digitalis purpurea?*

P. It is to be understood, that it can do nothing where disorganizations have already taken place; nor can we have recourse to it without danger, when the heart suffers an acute inflammation bleedings, antiphlogistics, and revulsions, are then the only remaining resources. But in cases where the heart is irritated, without being either inflamed or disorganized, the digitalis, seconded by a suitable diet, works wonderful cures, and of which I have witnessed a great many instances.

S. I am delighted with this discovery: I shall recommend the use of digitalis to all those of my acquaintance whom I suspect of having a *bad heart.*

P. Stop, sir, stop: I have not had time to tell you, that the stomach must be exempt from inflammation, for the digitalis to operate as it should upon the heart; for whenever there exists a shade of gastritis this remedy accelerates the pulsations, instead of diminishing them. Its effect is the same when the heart is excited by another inflammation, especially that of the lungs. In all these cases the digitalis is a poison, and you would render a very ill service to your friends by persuading them to make use of it. I may say as much of the *hydrocyanic acid*, formerly

called *prussic acid*, and of some other narcotics pretty generally used. It must be a physician, and even a physician physiologist to direct with security such means: experience has sufficiently proved it; for, before the founder of our doctrine had explained the mode of action of the digitalis, practitioners were always disputing among themselves on the effects of this powerful medicament; it has been the subject of many volumes, in which the authors vainly endeavoured to explain why its use was followed in some cases by a sedative effect on the heart, and in others by an action directly the contrary.

S. I discover a great deal of unity in your principles. You combat, in the first place, the irritation of the heart by bleedings, a strict diet, and refrigerating drinks. This method must calm the inflamed viscera; after this, the digitalis, far from being dangerous, becomes useful, and completes the cure without any inconvenience.

P. You have completely seized my idea. The point is, to calm the irritation of the heart, and to prevent it from producing disorganization; but when this is effected, there only remains to prescribe for patients this palliative medicine, of which I have already spoken, which suits every desperate case, and of which I conceive I can very properly spare you the details.

S. You are right, doctor; I do not wish to become a practitioner, but only to be thoroughly acquainted with the theory of the physiological doctrine. For

this sole reason I shall beg of you to inform me, whether the hæmorrhages, of which you have not yet spoken, do not depend on too violent an impulse communicated to the blood by the heart. This explanation appears to me quite natural; and I shall congratulate myself on having made, without any help, a just application of your doctrine.

P. There is certainly something similar in certain hæmorrhages; but, since other facts relate to them, we must postpone this subject for a fresh conversation.

DIALOGUE XVI.

HÆMORRHAGES IN BOTH SEXES.

SAVANT. The last words you pronounced yesterday, my dear doctor, have put my imagination to the torture. No humour, said I to myself, moves by its inherent force; this has been demonstrated to me. Now, as it is the heart that drives the blood into all parts of the body, I do not see why its too violent impulse may not rupture the vessels, and produce hæmorrhages?

PHYSICIAN. To convince you that this cause is not the only one, let it suffice to observe what occurs to yourself, when you take more than moderate exercise: do you not feel your heart contract itself with precipitation? your pulse beat with extreme violence? Yet you do not experience hæmorrhage.

S. In my youth, I experienced this under similar circumstances; exercise sometimes produced bleeding at the nose.

P. I have no doubt of it; but has not this also happened when you were in a state of rest?

S. It has, and rather frequently.

P. Here then is another cause than the violent impulse of the heart, which provokes hæmor-

rhages. Do you not observe the menstrual flux reappear in women, at fixed periods, without their experiencing any augmentation in the force of the pulsations of the heart?

S. That is true. But what then is the other cause? You doubtless are going to tell me, it is irritation; but why does irritation act more forcibly on the texture that produces hæmorrhage than on all the others?

P. Why, you may ask, does it also act more forcibly on an inflamed texture than on any other part of the animal economy? It is always for the same reason; and this reason is, that our textures cannot be all irritated to the same degree. The vital powers are never raised high at the same time in all the organs. If it were so, we should not be what we are, and we cannot conceive ourselves different from what Heaven has made us. All our functions present this unequal distribution of forces; but when it is carried too far, the result is morbid or sickly irritations. Now, the irritations, not of the blood, but of the blood-vessels, may exist in every part of the circulating circle. If they reside in its centre, which is the heart, the result is, the disorders we spoke of yesterday. If they are seated in the trunk, and the arterial or venous branches, they are aneurisms or varicose veins which are produced. But if their seat be in the minor vessels, which compose what we call the capillary system, these irritations will attract the bood thith e r in such large quantities, that it can be no longer contained in these same vessels; therefore

it will extravasate. If the extravasation have only place in the interior of the texture which suffers the irritation, and if there be not added to it an inflammatory heat, the name of *ecchymosis* is given to it. If this heat exist, the congestion will be a true inflammation, in which there may yet take place either a copious effusion of blood, which bears the name of apoplexy, or a purulent matter, which will form an abscess, if the part be cellular and soft enough to lend itself to the collection of pus. Finally, if the blood accumulate in the capillary vessels, over-irritated, it forces its way by an opening externally; and this will be a hæmorrhage. But do not imagine that the effusion is made by the rupture of vessels; it is by the dilatation of the textures, by a true exsudation, that the blood is poured forth. Stahl had announced this mode; it has been verified by other observers, who have sought in vain in the uterus the cicatrices of the pretended lacerations. M. Pinel formally adopted this theory in 1798; Bichat taught it to his pupils, and the physiological doctrine can do no more than conform to this explication. Irritation determines the unequal distribution of blood, and the part which is overcharged gets rid of it by a true exhalation. It is not then, as the ancients believed, the violent action of the heart, which bursts the vessels.

S. So the causes of hæmorrhage will always be those of inflammation.

P. Certainly; but we do not flatter ourselves that we can explain to you, why a sanguineous congestion,

provoked by irritation, produces in one a hæmorrhage and in another inflammation. We only know, that in youth, congestions often tend to effusions of blood directed towards the exterior of the body, and which preserve these subjects from inflammation; that towards declining age, the disposition to hæmorrhage having disappeared, with a few exceptions only, or whilst those to congestion still subsist, these last, instead of being cured spontaneously, by losses of blood, are converted into phlegmasiæ. We also observe, that in every epoch of life, hæmorrhage and inflammation succeed and replace each other reciprocally, either in the same organ, or in different organs. Finally, if we examine under what exterior influences hæmorrhages appear to be produced, we discover that these influences are exactly those which give birth to inflammation.

S. But to conclude, what are these influences?

P. Too succulent a diet, which furnishes a superabundant quantity of blood; the abuse of liquors, coffee, spiced meats, which over irritate the stomach, and with it the brain, and all the textures from whence hæmorrhages in general proceed; heat, which drives, or, if you like it better, which draws the blood towards the head; violent passions, which accumulate it, by a sudden congestion in the head, the lungs, the digestive organs; certain pleasures, which constantly attract it towards the sexual organs; cold, which draws it from the exterior, to precipitate it on the deep-seated organs; in a word, all that can irritate one point, or two or three of the most ac-

tive ones, and augment their sum of vitality, by diminishing that of others, destroy the equilibrium, and carry beyond the limits of a primitive state the unequal division of force that I spoke of a short time before; such are the causes of hæmorrhage, such are also those of inflammation and nervous affections.

S. Does the heart remain a stranger to all these derangements, to all these destructions of equilibrium?

P. The heart also receives irritations which belong to itself; and I have had the honour to inform you, that when anger provokes a congestion of blood, you see the face become red, swollen, and the blood flows through the nostrils; it is not the heart that accumulates the blood in these parts; it is the irritation caused by the emotion that draws and retains it by force in the brain, face, nostrils, from whence sometimes it escapes through the external pores of the mucous membrane. It is the same with expectorations and vomitings of blood, hæmorrhoids, &c. In all these cases, the irritation is derived through the nerves to a texture filled by capillary blood-vessels; it draws and accumulates the blood there; and the manner in which the texture is gorged re-acts on this fluid, and determines either inflammation or hæmorrhage, or an extravasation of sanguineous particles, which produces disorganization; the heart then is in no wise the first cause of the bloody engorgement, still less that of the various results that take place. In fact, by what predilection would the heart send blood into one part rather than into another? Its action is general; it drives the blood impartially

into all the arteries, without directing it to any branches in particular; if hæmorrhages were in direct proportion to its impulse, they would always take place in the arteries nearest the heart, and in places where these vessels are most multiplied; while we see them manifested, as well as inflammation, in all parts that possess blood vessels.

S. So you admit that the blood may be drawn anywhere, by a nervous irritation, and produce there all the mischief you mentioned, without the heart acting the smallest part?

P. I did not say precisely so; I say the irritation, or, if you like it better, the stimulus produced by an irritating cause, accumulates the blood in a part endowed with blood vessels; but that supposes this fluid being found in proximity to the irritated part; and it cannot be there, but inasmuch as the action of the heart conveys it thither. For if, for instance, the heart were kept in a state of constriction, by a depressing passion, such as fear, or if it were found in a momentary inaction, as in syncope; in a word, if it did not send blood into the vessels of the part which I suppose subject to the influence of an agent of irritation, this agent could not give birth there to a congestion of blood.

S. I believe, nobody would think of contesting this fact with you.

P. Well then, this fact proceeds to produce another, which is this: every time there is much blood in the surrounding vessels of the irritated part,

the congestion will be more easy; and, if it be supposed, that the blood is in an active motion, and promptly supplied by the vessels whither the irritation would draw it, the congestion will be still more easily accomplished. The necessary result of these two facts is, that the more energy the heart has, the more facility the local causes of irritation which act on the capillary blood vessels will have to produce sanguineous congestions, and afterwards phlegmasiæ and hæmorrhages. You now see why I told you, that the impulse of the heart is not the only cause of hæmorrhages. Assuredly it concurs; and it is for this reason that young subjects, and those whose hearts are too bulky, hypertrophied, are more exposed to hæmorrhages than others, when the causes of irritation act on the circulation of the blood.

S. I understand you: in your view of the subject, irritation acts the principal part, and the impulse of the heart acts a secondary part, in the production of sanguineous congestions, which, according to you, are the sources of inflammation, as well as of hæmorrhages. This is very well, my dear doctor; but for my part, I find still a trifling difficulty. You say there are always disturbing irritating causes, which produce hæmorrhages, and that these are to the effusion of blood nearly the same thing as inflammations. But what then are, I pray, the irritating causes that provoke the first menstruation in the young innocent virgin? And why, instead of a men-

strual hæmorrhage, does not from time to time an inflammation appear in a great number of women ?

P. The irritating cause that you inquire about, is the very vitality of the organ. In developing it, it draws thither more blood than is necessary for nutrition; and the blood which transudes through the pores of the external membrane produces the first hæmorrhage, that is to say, the first menstruation.

S. This appears to me (do not be displeased, doctor) to be rather hypothetical.

P. Not at all, sir. As long as the sexual organs remain inactive in women, they receive but such a share of vital action and fluids as is indispensable to their nutrition ; but when the development has arrived at its term, this same vital action, this same blood, which can no longer serve for its growth, have another destination ; they furnish the disposable materials for the formation of a new being ; and what serves to nourish it is rejected as superfluous, until the time when the intention of nature is fulfilled.

S. All this appears very rational ; but why are there so many females, in the class of animals, that are unprovided with this superfluity, so necessary to our species? And why is this superfluity, when it exists, only ejected in a periodical way, and even at such considerable intervals ?

P. Permit me, sir, to observe to you, that these questions are out of season. However, if you have not yet found them in sufficient number, I will join

with you, in asking the Creator of all things, why one animal is more sanguineous than another? why one perspires by the skin, whilst another, for instance, a dog, perspires only by the mouth? whilst amongst apes, there are some kinds that have the honour to pay the same tribute as our ladies? why it is not given to us to get rid, at every instant, like a great number of animals familiar to us, of various secretions infinitely more troublesome than those of females? why gestation, infancy, virility, old age, and, in a word, life, are circumscribed in determinate limits? The solution of all these questions, and a thousand others similar, that I could add, would be doubtless very curious; but, since we know no one capable to solve them, we are contented with noticing facts, and drawing conclusions which turn to our advantage.

Therefore, for the point in question, we will bear in mind, that every month the irritation is developed in the uterus; that it calls thither more blood than it can contain; that this blood should be effused without, to the end, that, if the organ be provoked by an increase of irritation, that is to say, by the action of perturbating causes, of which I have spoken, the menstrual discharge changes into hæmorrhage, or else is replaced by a true inflammation. Observe likewise, that when the uterus has ceased to be fit for such discharges, it ought, according to the order of nature, to lose its aptitude to bloody congestions, which would not fail to terminate in phlegmasiæ; and from all these observations we draw the follow-

ing consequences, which will not be hypothetical theory, but the result of facts reduced to principle:

1st. That, in order to be preserved from hæmorrhages, as well as from various other disorders, it is necessary to proportion the quantity of food to the corporeal exercise undertaken.

2d. That, when this precept is neglected, much more blood is engendered than is necessary for nutrition.

3d. That this superfluous blood is drawn by irritating causes into the principal organs, which are always most sanguineous, and that it there determines congestions.

4th. That women, children, and certain adults, possess the faculty of freeing themselves from this by hæmorrhages, which preserve them from more dangerous casualties; but that this faculty ceases in time in both sexes; and that then, instead of being exposed to hæmorrhages, they become subject to inflammation more or less alarming, according to the importance of the organ affected, the violence of the irritative impulse, and the manner in which it is treated.

5th. That the treatment of hæmorrhages rests on the same basis as that of inflammation; which explains why bleeding, that destroys congestion, is the most efficacious remedy in hæmorrhages, and why revulsion is so useful after the artificial evacuation of blood.

6th. That, finally, sobriety is an indispensable matter for those who have been subject to hæ-

morrhages in their youth, in order that congestions, which can no longer produce external and salutary hæmorrhages, may not produce internal ones, which are always dangerous, such as apoplexy, nor give birth to inflammations, which are not less fatal.

This last point explains to us, how hæmorrhages appear to change into gout, rheumatism, tetters, gravel, jaundice, hypochondriasis, hysteria, lymphatic engorgements, called obstructions, phthisis pulmonalis, &c. In truth, there must be remarked in all these changes, not with the humourists the degeneration of the blood, still less with the ontologists the transformation of an inexplicable entity into another equally incomprehensible; but the transfer of irritation from one organ to another, which it modifies, according to its degree of vitality.

S. I like your theory. I observe there proceeds from it, for the treatment, precepts which cannot fail of being very favourable to good manners.

P. Be assured of it, sir; there results from it, that the best means to preserve women from all those ills that follow the first cessation of the menstrual flux, is to subject them to exercise and temperance, instead of inspiring them by using cauteries, with a false security, which encourages them to enjoy good cheer and idleness; that young persons subject to bleedings at the nose, or spitting of blood, cannot avoid more severe disorders, such as phthisis and chronic gastritis, but by early renouncing excesses at table, and the dissipated life to which they are habituated; while men accustomed to the hæmorrhoidal flux should not rely on the

regularity of this evacuation, for the continuance of their health; but must expect its suppression, unless they renounce their excesses at table, or a sedentary life.

S. Ha, doctor! these last have at least the advantage of freeing themselves from their infirmities, by provoking the return of their hæmorrhoids.

P. This is very well for a certain time: a few leeches applied to the anus, will, indeed, sometimes relieve their infirmities; but they should not calculate that this method will constantly succeed.

S. I understand you; when age has caused the loss of the disposition to the hæmorrhoidal flux, they ought, like women of a certain age, to prevent plethora, in order to escape congestions of the larger viscera.

P. That reason is very good, and by giving it you prove effectually, that you have thoroughly comprehended me; but it is not the only one that ought to invite them to sobriety. Have the kindness to hear me still with attention.

S. I listen to you with so much the more attention, because I am myself subject to hæmorrhoids.

P. Well then, remember, sir, when we are exposed to powerful causes of irritation, this tends to develop itself in the organs possessed of the greatest share of vitality; now these organs are the viscera, brain, lungs, heart, and stomach. As long as the irritation of these important textures is not excessive, the vital power reflects it on those of the circumference, and we escape by hæmorrhages and external

inflammations; but if this irritation of the large viscera be carried to a high degree, or if, without being intense, it puts on an obstinate character, which happens always when we continue to over-employ stimulants, nature can produce nothing more efficacious on the circumference, our internal hæmorrhages and inflammations cease, and attacks of gout, pimples, or erysipelas, by means of which we were accustomed to recover our equilibrium, no longer happen; or, if these phlegmasiæ still appear, they no longer succeed in removing the visceral irritations, and from the prime of life we find ourselves a prey to infirmities which prepare our destruction.

It is here that the ancient practice was often found imperfect, relative to the hæmorrhages that trouble us; it advised those subject to hæmorrhoids, whose age seemed not to condemn them to lose this discharge, and to women still young, whose periods were arrested, to use stimulants in order to recal the suppressed hæmorrhage. Aloes were prescribed to the first; saffron, preparations of steel, and pretended emmenagogues to those of the other sex. But, as these medicaments can only act on the anus or sexual organs by irritating at first the great viscera, these, which were already too much irritated, kept the irritation, instead of passing it towards the organs indicated by the direction of the formula, and all the evils redoubled their intensity. The physiological doctrine has already taught physicians, that in such cases their first care ought to be to combat the inflammation of the head, chest, or abdo-

men; and that it is not till after having overcome it, or at least weakened it, that they may attempt the re-establishment of the habitual hæmorrhage. But the public, who have not been able to pursue the progress of science, follow still the old routine, and administer stimulants to force the blood towards its accustomed channels, without considering that they employ the fittest means to fix it more firmly in the interior; for you have not, I hope, forgot, that the blood is always carried to the organs which are the most irritated.

S. These are rigorous consequences of your principles, and I should have drawn them myself from precedents, if I had not been prevented by the old prejudices. I feel that you must be right; and I see now why so many physicians lose their time in prescribing applications of leeches, either to the anus or the sexual organs, in the suppression of hæmorrhages, because they have not had the patience to destroy the predominant irritation which retains the blood in the interior. Happy are those subject to hæmorrhoids, whose flux, perfectly regular, dispenses with their having recourse to these doctors! they can give themselves a greater latitude in diet: it is enough for them to preserve themselves from internal irritations that are somewhat violent. I have the advantage of being of this number; but you may be assured I shall not abuse it; I dread too much these formidable irritations, and my hæmorrhoids become dearer to me than ever.

P. The most abundant and the most regular hæ-

morrhoidal flux does not dispense those who rejoice at it from hygienic precautions, and especially sobriety. Do not forget that hæmorrhage is founded on irritation: before the blood flows, a congestion at the margin of the anus is indispensable; each flux is necessarily preceded by it; but if it take place with too much impetuosity, it may change into inflammation, which happens but too often; for this reason the majority of persons subject to hæmorrhoids, get at last inflammatory tumours around the anus. There results in the first place pain, constipation, clefts or fissures, that render the defecation very laborious; sometimes the inflammation lays hold of the surrounding cellular texture, and forms a deposit that ends in fistula; at other times, the phlegmasia ascends to the intestine, and produces there extensive disorganization, without speaking of the varicose veins, which may furnish too copious discharges, and fungosities, that become so inconvenient as to compel their extirpation. In general, it may be laid down as a principle, that the hæmorrhoidal flux is a bad resource, and happy are they who can do without it; therefore it must never be encouraged by an intemperate diet. This flux is rare among peasants, soldiers, or people who live soberly and take much exercise; a certain proof of its being nothing else than a painful effort of nature to expel an increase of blood, from which the constitution would have suffered. Most of those who are subject to it have at the same time to complain of a certain irritation in the digestive channels, which

periodically vanishes by its operation. I conclude of the piles, that they who have most reason to congratulate themselves on them, ought to avoid plethora that renders them necessary. For a still stronger reason is this precaution indispensable for those who have but the irritation and the hæmorrhoidal congestion, without enjoying the advantages attached to the sanguineous effusion : swellings, heat, itching, which are felt, never fail to produce some one of those local disorganizations of which I have just spoken, if these persons persevere in that course of life of over-excitements, of which they have acquired the habit.

S. How ! is it not enough to preserve the principal organs ? But what do you require from the unfortunate subjects of hæmorrhoids ? Explain yourself, I pray ; add some details, and extricate me from my perplexity.

P. I require, sir, that every man who is subject to an irritation of this kind, be it with or without flux, consider himself as over-fed and stimulated ; that, consequently, he should diminish the quantity of food that he uses, and content himself with those less irritating, as veal, or fowl, and that he consume very little of those called high-seasoned meats ; that he should eat much vegetables, and fruit, in order to keep his bowels free ; that he abstain from the culinary preparations of *haut gout*, spices, salt provisions ; from wine undiluted and spirituous liquor ; that he should drink water between his meals, which will contribute to render defecation easier, take mo-

derate exercise in the open air as often as possible; he should remedy, by the antiphlogistic treatment, every excess of irritation which manifests itself, either in the principal viscera, or at the podex, preserve himself from an inconvenient obesity, and a sanguineous plethora, which is always dangerous; finally, he should act in a way to diminish by degrees, and at length to put a stop to the disagreeable necessity of being subjected to the hæmorrhoidal irritation. But what I recommend the most earnestly is, never to have recourse to aloes and other violent purgatives called drastics, in order to make suppressed hæmorrhoids re-appear. What I have said on the importance of calming visceral irritation, ought to serve as a rule in these sorts of cases.

S. I did not expect, I assure you, to see you transform a regular hæmorrhoidal flux into a disease. But you have given me such plain reasons, that I find nothing to say to you in reply: the hæmorrhoidal flux is not natural; it is a bad resource; yes, I conceive that. But, at least, you will not apply this reproach to the periodical flux of women.

P. No, sir; but I will express a wish, that they should not place themselves by intemperance, idleness, and by certain excesses, under the necessity of having too abundant periodical discharges; for the sanguineous congestion that always precedes the irruption, and which announces itself by the ordinary signs of irritation, may be raised to so high a degree, that it is not entirely dissipated by the effu-

sion, and, continuing between the periods, becomes the source of a dangerous inflammation. I am very glad to inform you, that the schirrus and cancer of our females are always prepared by an irritation of the neck of the uterus, which has been misunderstood or neglected, for a number of years; and what I point out to you now, is much more common than many people are aware of.

S. I have carefully followed you, doctor; your system on hæmorrhages appears to me seducing; however, I have one doubt, which I beg you will solve. I have clearly seen the vital energy act in the production of the sanguineous effusion upon which you have been expatiating; but I have not distinguished in your reasoning the effects of a want of this same energy. I have read in many authors, that hæmorrhages are divided into the active and passive; you have only spoken to me of the first: are there none that ought to be included in the second? Is it always by an excess of vitality, that we experience loss of blood?

P. Whenever hæmorrhages are spontaneous, they can arise only from this unequal distribution of powers, on which I ought most strongly to fix your attention. Some would, according to Brown, have it that these were passive, which they attributed to weakness, to a relaxation of the vessels, that had not sufficient strength to hold the blood that flows through them. Indeed, it is very evident, that a relaxed texture would much sooner let the blood escape than one which is more contracted; but there must be

always admitted a stimulant cause that calls the blood to the part: for, if debility were sufficient to produce hæmorrhages, this fluid would be seen to escape from all the vessels in the moment of death; and paralyzed limbs, during the course of life, would suffer abundant hæmorrhages, if they were wounded. Now it is precisely the contrary that is observed: the blood retreats from textures, in proportion as their vitality diminishes, to repair to parts that preserve the most energy. But there are other facts: the passive hæmorrhages of authors are, the losses of blood of women after childbirth; those which accompany schirrus and cancer of the uterus; bloody expectorations (hæmoptysis) of persons who have ulcers in the lungs; vomitings of blood, called hæmatemesis, melæna, and which are occasionally met with in hypochondriac and melancholic subjects; the excessive flux of blood of those subject to piles, of whom we have already spoken; the uncontrollable bleedings at the nose of some cachectic persons; the hæmorrhages, whatever they may be, of those whom these authors believe to be affected with adynamic fever (fever depending on debility); the bleedings of scorbutics. Now all these hæmorrhages are founded on inflammation; it is the irritation of childbirth that produces the sanguineous congestion of the uterus; it is the cancerous phlegmasia that draws the blood to the uterus, and determines its effusion. Hæmoptysies only take place because the inflammation of the lungs calls the blood into the vessels, where it ought never to pene-

trate in large quantities; vomitings of blood (hæmatemesis) and melæna never appear, but when the gastric irritation has continued long enough to develop the vessels of the stomach, and enlarge their orifices; the hæmorrhoidal flux would never become excessive, if the repetition of the sanguineous congestion had not changed the nature of the vessels of those parts where it shows itself; the bleeding of the nose, the bloody stools of those attacked by pretended adynamic fevers, are the effect of the violent excitements produced by the gastro-enteritis that consumes them, and often these become the best remedy for it; cachectic subjects, who are worn out by repeated epistaxis (bleeding at the nose), are all, without exception, afflicted with chronic inflammation of the head, chest, or abdomen; finally, scorbutic persons only become subject to great losses of blood in the textures where inflammation is developed; such are the gums, and at times some portion of the intestinal canal; scorbutic subjects are weakened by an imperfect assimilation; nevertheless there must always be either the action of a phlegmasia or an external injury, to determine the blood to flow from its vessels; so difficult is it to find a spontaneous hæmorrhage independent of irritation.

But do you know why all hæmorrhages, that I have seen, have been attributed to debility? Because those who suffered them were in a state of debility: the theory was the same for inflammation and nervous disorders. See how men reasoned in

those ages of darkness: "This man is strong; therefore all his disorders arise from his strength: the other is weak; therefore all his disorders proceed from weakness." The leader of our doctrine has proved the futility of such argumentation. He has proved that the vigorous and feeble may be equally affected by disorders from irritation; but he has demonstrated, that the irritation, although it may show itself in the form of phlegmasia, or with sanguineous effusion, or manifest itself by convulsions and pain, does not cease to be of the same nature, whatever be the age, sex, temperament, strength, or weakness of the sufferers. In fact, in every case, they are produced by the same causes; and the treatment that succeeds the best always consists in calming the local irritation, by emollients, or calling it towards another part by revulsion; only there must be established between the vigorous and the feeble this difference, that the first will endure bleeding, while the second may suffer from it; for which reason emollients are given to these by preference, because such remedies do not cause a loss of strength, and revulsives, which give to that strength a direction more advantageous towards the primitive equilibrium.

Thus sir, you see, that in tracing the theory of active hæmorrhages, I have given you that of the spontaneous passive hæmorrhages of our ancient and modern Brunonians. In fact, by preventing a source of inflammation from becoming fixed and chronic, you prevent the hæmorrhages called passive.

S. But must we not have recourse to astringents, in order to contract the vessels, the relaxation of which gives way to hæmorrhage?

P. Yes, sir; that method is successful, at least for some time, when the individual is very much debilitated; for, even supposing that astringents might augment the irritation of the part, and raise it to a degree the most capable of compromising existence, this inflammation will be always less dangerous than the sudden loss of all the blood. In this case, art opposes one disorder to another; it produces a less one, in order to prevent the effect of one more alarming. Such is the real explication of the success of astringents and stimulants applied to textures where those hæmorrhages exist of which I have spoken. The physician should never lose sight of it; for in giving a new impulse to the seat of chronic inflammation which furnishes the hæmorrhage, he prepares new difficulties for the ulterior treatment of this inflammation. But I ought to observe to you, that it is particularly by developing the irritation in a place more or less distant from the seat of the hæmorrhage, that tonics succeed in arresting its course; I mean to say, in operating a revulsion; it is in this manner that the stomach is stimulated to stop bleedings at the nose, hemoptysies, uterine losses of blood, and with still more success they are opposed by the application of blisters to the skin. All this concurs to prove the irritative nature of hæmorrhages called passive.

S. Will not cold also stop hæmorrhages?

P. The success of this method is another proof of the irritation of hæmorrhages called passive, since it can only act by diminishing the vitality of the part where it is applied. However, since the vital force re-acts against the sedative action of the cold, this does not succeed in arresting the effusion of blood, except in cases where the violence of the circulation has been much diminished by the hæmorrhage or artificial bleedings.

S. Then you admit of no passive hæmorrhage?

P. Those only which are not spontaneous, but depend on violence exercised on the parts which furnish the blood, or a powerful obstacle to the course of this fluid, deserve to be placed in this rank; thus ecchymosis determined by contusion, hemoptysies, and hæmatemesis produced by blows, falls, violent efforts, or by aneurism of the heart; the spitting of blood, occasioned by the compression which the womb exercises on the lungs in pregnancy, or by a large mass of serosity accumulated in the cavity of the abdomen, make part of the passive hæmorrhages, because they are occasioned by a violence exercised on the textures that furnish the blood. But, since these causes are at the same time irritating, they may leave behind them a phlegmasia, and from passive, as it was in the beginning, the hæmorrhage, if it continue after the removal of the cause, soon becomes truly active. Then lowering means, bleeding and revulsions, are indicated, as in primitively active hæmorrhages. I might strengthen these assertions by numerous examples; but since

descriptive details, and the minutiæ of treatment, do not enter into the plan which I proposed to follow, I think I ought to spare you, and confine myself to the essence of the physiological theory.

S. I thank you, doctor, for all these explanations; they are sufficient for me, and reflect on my observation a light so much the more agreeable, as it comes quite unexpected. I see it is absolutely necessary that all our disorders be examined rationally, and I perceive your method is very fit to furnish me with the means. I wish you would be so kind as to give me an idea of cancer; for I saw, that in ranging that of the uterus among the hæmorrhages of women, you made it depend on irritation; and I think it must be of the same nature, whatever be the organs where it may be seated.

P. This shall be the subject of our next conversation.

DIALOGUE XVII.

SCHIRRUS, CANCER, AND ORGANIC AFFECTIONS IN GENERAL.

SAVANT. I attend you, in the hope of hearing you justify more and more the high esteem in which I hold your physiological doctrine.

PHYSICIAN. After the development I gave you on the disorders of irritation, a long treatise on cancer will be wholly superfluous. I shall confine myself to informing you, that cancer is always a production of phlegmasia, or a chronic sub-inflammation, occasioned by the ordinary causes of these disorders; such are external injuries, blows, falls, the action of irritating bodies of whatever nature they may be; the exaggeration of the functions of an organ, as the superabundance of milk for the breast, that of the periodical courses, excess of pleasure and laborious accouchement for the uterus, accidental inflammations of the genital organs of the male sex, abuse of irritating remedies in tetters, scrofula, syphilis, and in all the phlegmasiæ of the interior of the body. The irritation which continues long in these textures, calls the lymph towards them,

which are hardened by it; a secondary inflammation that is there developed, after long standing, produces finally an ulceration which destroys the parts; and the repetition of the inflammatory action in the principal organs, the gastric channels, lungs, brain, and heart, cause at length the death of the individual. It results from this theory, entirely founded on facts clearly observed, that if physicians know how to remove by local bleedings, diet, and revulsives, the inflammations of the breast, uterus, face, sexual organs, &c., before these have produced lymphatic engorgements in a high degree indurated, cancer will be prevented; there results moreover, that these engorgements are sometimes susceptible of yielding to the same means; or that at least in employing them, the propagation of the phlegmasia to the viscera is prevented, which procures for these patients the advantage of carrying with impunity their tumours to old age; finally, there is this result, and it is a fact worthy of general attention, that the cancers of external parts, although already ulcerated, may yield to local treatment, or be removed with success by the surgeon, provided the irritation has not penetrated to the viscera.

But what had we formerly instead of these satisfactory data? an insupportable void, a desolating fatality! Cancer proceeding from an unknown cause, attributed to an occult principle that acted on the living economy in a way likewise unknown; for none dared any longer, in imitation of the ancients, to make

of it a virus or a corrupted humour. If there existed an indolent glandular or any other tumour on the exterior of the body, it was attacked by stimulants, which never failed to exasperate. Was the question to be determined, whether this induration would become a cancerous ulcer, this event was waited for, to give you an answer. If the tumour was dissipated, you were told, that it was not destined to produce a cancer. If the surface ulcerated, you were answered, that no human aid would have been capable of resolving this tumour. Did you ask the same question concerning the ulceration, you got the same reply: no sign drawn from the appearance of the ulcerated surface furnished positive characteristics of its nature. If you were cured, you were steadfastly assured that it was not cancerous. If the patient died, physicians maintained, that notwithstanding all that might have been done, this fatal termination could never have been prevented. When the irritation spread to the viscera, they beheld in it a being called cancerous *diathesis* or *cachexia;* and, far from remedying it by antiphlogistics, they aggravated this stage and rendered it incurable by specifics and irritable substances of every kind. Such was the deplorable state in which science was found, as connected with these disorders, prior to the origin of the physiological doctrine. Cancer was really the terror of mankind, and the opprobrium of the healing art; and nothing led us to hope that we should ever free ourselves from this labyrinth,

when the theory of irritation came with its light, and referred this disease to the principles which preside over all others.

I forbear speaking to you of those cancers called primitive of the internal organs; they are the effects of prolonged irritation; and I have already mentioned them, when treating of that disorder.

The evident result of what you have heard is, that paralysis, apoplexy, phthisis, aneurism and morbid alterations of the heart, schirrus, alterations of the digestive channels, cancers on the external body, &c. are not particular diseases to which people are doomed from their birth, or mischievous beings, evil genii, which dart on the unfortunate human species, to sacrifice them without motives or causes that may be appreciated: they are the consequences of inflammatory irritations, or sub-inflammations, always curable in the beginning, and which, of course, would never take place, if the sick would claim timely aid of art, and if physicians knew how to administer it, conformably to the principles of the physiological doctrine.

S. I am thoroughly possessed of the plan of your doctrine; I find it satisfactory for all the diseases that you have passed in review before me; but there are many others of which you have said nothing. I conceive that maladies of organs of secondary importance, as the throat, mouth, eye, ear, tracheal artery, kidneys, bladder, and organs of generation,

should be ranged with those of which you have spoken; and I am afraid of bearing too hard on your patience, in requesting you to give me their history. But I declare to you, that I have still doubts, which I believe well founded, concerning the similarity of all these diseases with hydrophobia. Can you not, at our next interview, favour me with a few words on this affection?

P. I will do it with pleasure.

DIALOGUE XVIII.

CANINE MADNESS. BITE OF VENOMOUS ANIMALS. WORMS.

SAVANT. I have asked you for the theory of hydrophobia; but as I apprehend you will soon have concluded this chapter, I have prepared for you some other questions, to protract awhile our discourse, and make up for the brevity of the last, if your occupations give you the leisure to answer me.

PHYSICIAN. I am at your disposal, sir; the preparations for my departure are nearly terminated; and I only remain to profit by the circumstance you offer me to propagate the principles of the real practice of medicine.

S. Begin then by speaking of hydrophobia.

P. This is one of the most formidable disorders; however, it has not escaped the investigation of physiologist physicians. For the last ten years, our professor has unceasingly meditated on all the observations that have been published concerning this dreadful scourge, and has drawn from them the following conclusions:

Hydrophobia is, most ordinarily, in our species, the produce of a particular irritation, communicated to the constitution by the bite of an animal of the canine race (dog, wolf, hyæna, jackal, or fox) that is attacked by it. It seems to depend on the inoculation of the saliva of the animal; this saliva is become venomous by the excessive irritation of the glands that produce it, and which are situated around the mouth; and this irritation is itself correspondent with that of the internal membrane of the mouth and throat. This last irritation, in its turn, coincides with that of the stomach, and is more or less partaken of by the brain and lungs. It is very difficult to determine which of these different organs is affected the first, and which communicates it to others. There is nevertheless reason to believe that the irritation of the throat is fundamental, since it is there that the first symptoms are manifested, by a sensation of constriction, and dread of liquids, phenomena that are often met with in the ordinary phlegmasia of the gullet, called *angina*, or quinsey. The effect produced by the inoculation of the saliva, in the development of this malady, seems to add weight to this opinion; it may also be the effect of exasperated anger; for it is clearly proved, that furious persons, who were not suspected of hydrophobia, have communicated this disease by their bites; and it is known that rage acts strongly on the *pharynx*, heats the throat, agitates the lower jaw by convulsive trembling (grinding of the teeth), excites the secretion of saliva, and fills the mouth with

frothy matter. It may be suspected, that the saliva, depraved by this local irritation, becomes a real poison to those who receive it in a wound occasioned by the bite of the enraged or furious individual; that it carries the irritation to the nervous extremities which are situated in the wound, and from thence to the same organs which were affected in the man or animal that furnished this saliva. However, it cannot be doubted, that the irritation of the centre of the epigastrium, and especially the stomach, coincides constantly with that of the throat; it is even doubtful, whether, under certain circumstances, gastritis is not capable of acting powerfully enough on the throat to produce in it the degree of irritation, that renders morbid the salivary secretion, and converts it into poison. Besides, is it not known, that all irritation of organs may be at one time primitive, and at other times secondary?

S. According to what you have said about nervous affections, it seems to me, that the brain must intervene very much in the produce of hydrophobia.

P. Certainly, sir; in communicated hydrophobia, the brain receives the stimulation of the inoculated saliva, and reflects it on the throat, and when this last is inflamed, it re-acts forcibly on the brain. But in cases where hydrophobia is spontaneous, and produced by anger, it is the brain that acts on the throat, as if to inflame it, and raise to excess its sensibility; afterwards, when arrived at this state, it receives from the brain irritation, which it sends into all the nervous textures, particularly into the mus-

cular set, whence result convulsions. At length, if the phlegmasia of the stomach is sufficiently intense to produce hydrophobia, as we have good reason to suppose by observing its development in the dog, that can only take place, because the brain, irritated by the gastritis, acts on the throat, and there developes inflammation and spasm, the perception of which afterwards contributes to augment its own irritation. In general, stimulations are continually reflected and thrown from other parts on the brain, with so much the more energy where these are more nervous, and more sanguineous. Now, the internal membrane of the throat and digestive channels possesses in a high degree these two conditions; it is therefore not surprising that the irritated brain developes and receives continual excitements, which it reflects over the muscles, producing convulsions more or less strong.

S. Is it known how spontaneous hydrophobia originates in dogs?

P. It is developed during heat, and it is supposed that it begins by a gastritis, attended by irritation of the throat; for inflammation is always observed in both these parts, when there is an opportunity of opening a mad dog. Hydrophobia then would be one of the forms of gastritis in the animal; but to acquire the certitude of it, it will be necessary to give this animal an artificial gastritis. It is known that the dog never sweats, that when he is heated, he gets out of breath, and the secretion of saliva is augmented. This irritation is doubtless partaken of by the stomach, and hydrophobia may

originate in this double cause. But the conversion of the saliva into a virus capable of infecting another animal, is nevertheless a very extraordinary phenomenon.

S. So you imagine that saliva may become, by irritation of the throat, sufficiently poisonous to produce hydrophobia. Have you any other similar facts capable of corroborating this assertion?

P. Yes, sir; all the organs, whose office is to prepare particular humours, and which we call organs of secretion, or glands, may, when they are strongly irritated, impart to their fluids a degree of virulence more or less powerful, although the blood be as pure as before. Thus a fit of anger raised to fury, communicates to the bile an acridity, which renders it susceptible of inflaming the digestive canal, and converting the milk of a nurse into a very dangerous poison for the child that sucks it. Now, all this only takes place, because the influence which the brain exerts on the liver or mammæ becomes excessively irritable. All inflammations of a high intensity may deprave the pus of a suppurating surface, and change it into a poison capable of attacking the principle of life, if it should be absorbed and enter into the course of the circulation. Why then be surprised that anger, which heats the throat, and provokes the secretion of saliva, should act on the glands which prepare this humour*, with sufficient

* These glands are placed around the mouth; the largest is the parotid, situated at the superior and lateral extremity of the neck, behind the lower jaw, on each side; the others are situated nearer the tongue.

energy to make a poison of it, susceptible of developing irritation in those who receive it by inoculation, through bites? What there is incomprehensible in this fact is, I repeat it, that the irritation predominates in the salivary organ of the bitten animal, and renders his saliva equally venomous as that of the biting animal. Nevertheless you will remark, that the saliva does not acquire this virulence in all animals; man, and the different species of dogs, are those only that have furnished examples of hydrophobia not communicated. Rage and gastritis do not produce it in other animals; but they may receive it from the preceding ones, especially from the dog; for there is no instance of a man having communicated it to animals by biting. But it is not less worthy of attention, that when these last have contracted it by the bite of a dog, the throat seldom fails to contract irritation.

S. It is vexatious that it cannot be better determined which is the organ whence springs the principle of hydrophobia; this would furnish *data* for the treatment of this cruel disorder.

P. Whatever may be the primitive seat of the malady, it is always certain that the infected never die without irritation becoming excessive in the principal viscera, the stomach, brain, lungs, and heart: this fact may always lay a foundation for the treatment. It is demonstrated by the opening of bodies, which show these organs gorged with blood, and hardened to a degree that corresponds with inflammation; a certain proof that the irritation of the nerves has strongly drawn and concentrated

there this fluid. Those afflicted with this disease die less from the inflammatory disorganization, than the anguish and convulsive efforts that they suffer. Many other maladies present the same peculiarity; and I will above all cite tetanus, inflammation of the membrane of the brain, and certain kinds of gastritis, which forcibly re-act on this viscera. The more active the convulsions are in all these cases, the sooner life is extinguished; hence the short time allowed to remedy these disorders.

Every body knows that the development of canine madness, called hydrophobia from the dread of water, which nevertheless does not exist in all these disorders*, is prevented by the deep cauterization of the wound; but when the characteristic symptoms of the disease, dread of water, impossibility of deglutition, heat and spasms of the throat, stomach, terrors, transports of rage, convulsive agitation of the face, are declared, it is an extraordinary occurrence for individuals thus attacked to be saved.

S. Deplorable sentence! does then your new doctrine provide no means of mitigating it?

P. Perhaps it does: you shall judge.

Before the time of the physiological doctrine, there was rarely opposed to this disease any other remedies than stimulants. Opium, musk, camphor, mercurial frictions, persevered in until they caused

* It exists only when the irritation is excessive in the pharynx. If it predominate in the other viscera, hydrophobia or dread of water does not take place; but the disease is not the less dangerous on that account.

salivation, a multitude of pharmaceutical preparations composed of aromatics and the most inflammatory ingredients, alkaline drinks, sudden immersions in cold water, or poured on the head, such were the means, all excessively stimulant, to which it was conceived necessary to have recourse, and those infected died in the midst of anguish and the most horrible convulsions. If some few of these patients were bled, haste was made immediately after to stimulate with opium, musk, or camphor. The professor of the physiological practice of medicine raised boldly his voice, since the year 1814, against this mad treatment; he called to memory the successes, in truth few in number, but at least well proved, obtained formerly by Boerhaave, and more recently by the English, and some European physicians practising in the East Indies, by employing the means of bleeding pushed even to fainting. He thought this mode might have some inconveniences, as to debilitating; but that it should be remedied by applying an abundance of leeches to the epigastrium, on the course of the jugular veins, which descend the length of the lateral parts of the neck, around the throat, and even in the inside of the mouth, as is practised in angina. He compared, in this respect, hydrophobia to all local irritations accompanied by strong nervous affections; bleedings are only useful in the commencement; for when pains and convulsions have exhausted the powers, the removal of blood is speedily followed by death. For the rest he was of opinion, that a quantity of pure cold water, acidulated or

rendered emollient by a mucilage, should be introduced by the mouth, after having removed the spasms of the gullet, and by the anus, by means of clysters and injections : he proposed besides to keep the patient constantly in a luke-warm bath, as soon as the dread of water should be calmed by local bleedings, and injections of water into the stomach and intestines : he prohibited all kinds of stimulant remedies, whatever specious names it had been resolved to adorn them with, unless the object was to procure a momentary excitation, after an excessive loss of blood ; he strongly urged his pupils to seize the first opportunities that presented, to try without hesitation these experiments, assuring them constantly, that, if they could succeed in calming the irritation of the throat and stomach, unlooked-for success might be expected : he even expressed many times a desire, that water might be introduced into the circulation by a more direct channel than that of absorption; but, as he has not had the opportunity of treating hydrophobia, he is unable to furnish examples in support of his theory.

Such were the precepts the professor unceasingly delivered in public for the last seven or eight years, when an ingenious experimentalist conceived the idea of injecting water into the veins of a large fighting dog affected with madness: the animal became tranquil, but nevertheless shortly after died. This success, though incomplete, did not fail to encourage other experiments. An opportunity offered to repeat it on a man admitted into the *Hôtel-Dieu*, and

suspected of hydrophobia. Although this new trial has not been successful, I think physicians should not give it up. Already the injection of a solution of opium in the veins has succeeded in dissipating violent convulsions. It seems sufficiently reasonable to suppose, that water, care being taken to employ that which is distilled, proportionate to the temperature of the body, and in small doses, ought to have still less inconvenience. It is a last resource in tetanus and violent fits of convulsions.

S. So the benefits of your doctrine, as to hydrophobia, are as yet only in perspective. It is always something, when there is doubt of a disorder of such importance. Pray give me some information respecting the bites of venomous animals.

P. We conceive, that the venom which they introduce into the wounds can only act on the constitution by irritating it. The phenomena developed are always those of irritation, such as anguish, convulsions, pains at the epigastrium, a sensation of pungent heat, with a call of humours to the part that has received the poison. The remedies opposed to those symptoms are in general stimulants, ammonia (volatile alkali), and some aromatic plants, serpentaria root, contrayerva, &c.; these substances must act by revulsion. Perhaps anti-phlogistics may find their application; but the effects of these poisons are so rapid, and the irritation they determine dissipates the forces in exalting them with such promptitude, that none have ventured yet to hazard the augmentation of the debility of the patients by local

bleedings and refrigerants. We must also take into consideration the decomposition of fluids; but it is, above all, by the irritation of the nervous system that these poisons become fatal. We wish for new experiments on this important matter; and we desire most particularly, that these be performed by physicians brought up in the principles of physiological medicine.

S. It is to be regretted that you have nothing more precise concerning this description of disorder. I hope you will soon possess facts, that may fulfil the wishes of philanthropists. Now for a word or two, I pray, on the subject of worms.

P. The primary cause of worms is difficult to determine; it is known that they inhabit the interior of the digestive canal, especially the small intestines, and are reproduced by generation; but all people do not carry the germ within them. The opinion of the ancients was, that the weakness of the constitution, in causing the mucosity or pituitous humour to abound in the intestines, above all during childhood, was the indirect cause of worms; but the founder of the physiological doctrine teaches, that this mucosity, so favourable to the generation of animals, is rather an effect of inflammation than of the weakness of the intestines. He founds his assertion on the circumstance, that the most vigorous subjects have worms in every period of life, when they are attacked by gastro-enteritis, either acute or chronic; but he does not indulge himself with the hope of explaining why worms do not exist in all these disorders. There

remains to be discovered what are the aliments, the atmospherical influences, which are the cause, why certain epidemics offer them in abundance, whilst others do not show any. Thereupon we have but approximate *data:* for instance; it is known that worms are often found in the gastro-enteritis of rainy seasons, and in those persons who have made use of unwholesome food, of watery vegetables that have not attained their perfect maturity; but, once more, it is impossible to say why all the sick are not affected in similar circumstances, and why worms make their appearance in subjects who eat wholesome food, and live in an atmosphere congenial to health. We should, according to this, presume, that, independent of inflammation, there exists in certain subjects a disposition to foster worms, and in others an idiosyncrasy, or particular disposition quite opposite.

Whatsoever it be, the physiological doctrine has thrown the greatest light on the treatment of worm affections. Formerly, as soon as the existence of worms in the digestive canal was proved, or only suspected, the use of certain stimulants was eagerly resorted to; they were adorned with the titles of *vermifuges* or *anthelmentics:* rhubarb, all the bitters, wormwood, tansy, santoline, or worm powders, Corsican moss, garlic, assa-fœtida, mercury, purgatives the most violent, were administered in large doses, without paying the least attention to the inflammation of the stomach and intestines; thus it happened very often, that the disease was aggravated under the influence of such means, and became in-

curable. This was the case with children, whose gastric irritations were for the most part treated by vermifuges, which ultimately caused chronic enteritis, designated at that time by the name of *atrophy, and obstruction of the mesenteric glands.*

Now all physicians, who have adopted the physiological doctrine, take care how they commit similar blunders; experience has taught them, in a very great majority of cases, that worms are expelled by nature as soon as the inflammation that supported them has been vanquished. They therefore begin by directing their curative means against this phlegmasia, confining themselves to the union of convenient emollients with some non-irritating vermifuges, such as oils mixed with acids, reserving the irritating vermifuges for those cases where worms persist, in spite of the destruction of the intestinal phlegmasiæ; still they are never obstinate in their use, should there supervene some fresh symptoms of irritation. This method is followed with the most constant success.

S. But the solitary, or tape worm; have you not a particular treatment to oppose to it?

P. Tenia, erroneously designated by the name of solitary or tape worm, is flat, formed by a series of rings, very much like the seeds of a melon: its length is sometimes many yards; it occupies the small intestines, and is so far from being always single, that our professor has found as many as seven in the digestive canal of one person. In general, the

treatment of this worm was empirical in the old doctrine; strong doses of violent purgatives were given to remove it, and these remedies left often in the digestive canal an irritation very difficult to be destroyed. It requires all the prudence of a physician-physiologist to cure this affection, without inflicting a severe stroke on the constitution. The plan that should be followed is this: after having combated the inflammation, if it exist, the patient should be filled with mucilaginous aliments, milk, emollient beverages; afterwards, copious evacuations are provoked by means of oily purgatives. The way in which the organs of digestion support the impression of these last remedies, serves as a guide to the practitioner; for he never should insist on their use to such a degree as to foment a chronic inflammation, which may terminate in disorganizing this part. More ample details would only belong to a complete practical tréatise on medicine; I hope you will dispense with them; my aim being only to furnish you with documents, to enable you to judge of the influence which the physiological doctrine exerts over the treatment of disorders. I flatter myself that you are now quite convinced, that there are no diseases, the theory of which has not been rectified by it, in a way the most advantageous for mankind.

S. There are yet some disorders on which you have not conversed with me; I absolve you from those I can refer to your theory; but I own I cannot conceive how dropsies can have any relation to

those affections which we have passed in review. People continually repeat, that their blood is transformed to water in this disorder; more enlightened persons ascribe it to weakness. Let me know what you think of it, and if you are able to establish any affinity between dropsy and inflammation.

These affinities, sir, are extremely multiplied; however, all dropsies are not indiscriminately to be referred to inflammations. I will try to give you an idea of these disorders at our next interview.

DIALOGUE XIX.

DROPSIES.

SAVANT. Whenever you leave me expecting the discussion of a fresh disease, I never fail to ponder, and search in the recollection of my reading, what idea I had before formed of it. I declare that I have not been able to find any thing satisfactory on dropsy. In fact, I wished, conformably to your principles, to ascribe it to irritation; but there is no possibility of explaining by this phenomenon the formation of the mass of water which distends and disfigures all parts of the body. After much reflection, I cannot see any other cause than the suppression of perspiration and urine; but it is in vain that I fatigue my brain, to discover how this suppression is converted into dropsy. Speak then, and let us see what your doctrine has usefully effected in this singular disease.

PHYSICIAN. If you cannot form an idea of dropsy, it is because you want the *data* on the intimate structure and functions of the organs. Formerly, medicine was so far independent of the human body, that the public could fancy they un-

derstood it without having any idea of anatomy. It is quite otherwise in the age we live in; disorders are no longer a mass of impure humours, having their correctives and evacuants in our apothecaries' shops; nor are they abstract collections of symptoms, realized, and considered as agents which act on the vital principle; they are nothing more than the derangement of organs; and to understand them thoroughly, we must at least be able to represent to ourselves these organs, and the functions which they perform.

S. I feel that you are right; and I am ready to take a new lesson on anatomy, on condition, however, that you make it plain to me.

P. You must in the first place understand what is the seat of dropsy. This seat is double; it is confined to membranes, which Bichat, the celebrated physiologist, has named *serous*, and to the cellular texture.

The serous membranes are transparent textures, extremely thin and fine, though endowed with considerable resistance they line all the internal surfaces of the body that are free, and which do not communicate with the exterior; these surfaces are little known to the public; you must nevertheless try to acquire an idea of them You remember the peritoneum that I spoke of in treating of its inflammation, known by the name of *peritonitis*?

S. I remember your having said, that the stomach, intestines, liver, uterus, and bladder, were float-

ing in the cavity of the abdomen, and covered by a smooth membrane which you called the *peritoneum*.

P. You perfectly understand the matter. The same membrane, which lines and suspends these parts, retires on both sides, when it abandons them, to the internal surface of the muscles and bones, which form the parietes of the abdomen, resembling a kind of sack without an opening. This sack has two surfaces; one internal, smooth, and slippery, always free, which corresponds everywhere to itself, since it covers the viscera, and the parietes that inclose it; one external, attached by cellular filaments to the viscera and the sides of the abdomen, so that these parts are all situated outside the peritoneum. Well then, the same disposition is found in the chest, and in the cranium. A membrane, formed on the same plan as that we have noticed, spreads itself from one part over each of the two lungs, which it follows up to its root, and which it leaves free everywhere besides. When arrived at the root of each lung or lobe, this membrane quits them, and retreats to the internal surface of the ribs and diaphragm: it is called the *pleura*. It is double, since the lungs are so, and that of one side has no communication with the other. There is the same disposition for the heart; it is enveloped by a membrane, which after having surrounded it, leaves it at its base, and lets it loose and floating, to repair to the internal surface of a peculiar kind of sack, called the *pericardium*, in which this organ is con-

tained, and which is without any perforation. Lastly, the brain, free in the major part of its circumference, and likewise contained in the external surface of a sack without an opening, which, after having surrounded it, leaves it at its base, to repair to the internal surface of the osseous fissure which contains it. This membrane, compared, on account of its fineness, to a spider's web, is called *tunica arachnoide.*

Of these various membranes, there are two which form many folds, of which some are free, and others follow the irregularities and different forms of the viscera: the last are those of the abdomen and the brain. But it would be useless to give you a minute description of it; it is sufficient for you to form a general idea of these membranes. To resume, I say, figure to yourself a cap: it is a sack without an opening; its internal surface corresponds everywhere to itself, like the free and slippery surface of a serous membrane. When this cap is folded up, and in its place, one portion of its external surface surrounds the head, in the same manner as a portion of the external surface of a serous membrane surrounds the viscera; the other portion of the cap is at liberty, but in a visceral cavity it corresponds to the abdominal parietes. I ought still to add, that the internal surface of these membranes is always moistened by a serous vapour, which is incessantly exhaled and absorbed; its use is to facilitate the movement and sliding of the viscera, either one on another, or over the sides that inclose them.

These membranes owe to this vapour the name by which they are now designated.

Now you will comprehend the theory of dropsies of serous membranes, and perceive how they are related to their inflammations.

S. Stop a moment. Pray tell me, whence comes this serous vapour, that moistens the membrane of which you speak?

P. It proceeds from the blood; it transudes as a sort of exhalation or perspiration from the small vessels which form the serous membranes; other capillary vessels absorb it continually, and return it to the torrent of the circulation.

S. That is very clear. Now let us see how dropsies are formed in these membranes.

P. When a serous membrane is inflamed, the vapour that moistens its internal surface thickens and changes into pus. If the inflammation be cured, this pus is condensed, organized, and converted into a solid texture, which causes the adhesion of the two surfaces, and thus produces their immobility. Such is the mode of cure of peritonitis, pleuritis, and pericarditis, names of the inflammations of the peritoneum, pleura, and pericardium. If the inflammation be not cured, the vapour is changed into pus, accumulates, and forms a considerable collection, which constitutes the first stage of dropsy, that which immediately follows inflammation; such are the dropsies of the chest, which assume that name when the periods of heat and fever are terminated. In the same manner are

formed, dropsy of the pericardium, after *pericarditis*, or inflammation of the serous surface of the heart; dropsy of the brain, called *hydrocephalus*, after prolonged arachnoidites or arachnitis; at last, ascites, or a collection of liquids in the cavity of the abdomen, following peritonitis become chronic. You ought now to feel all the importance of the precept given to you before, when treating of peritonitis and pleurisies, always to arrest inflammation of serous membranes, whatever may be the consequence.

S. These are things of which I had no idea; and I really feel how culpable physicians are who abandon these inflammations to nature, or treat them by irritating means; for they cannot be ignorant of the manner of the formation of these dropsies, since they know that an inflammation may suppurate, and that serous membranes have no outlet. But proceed.

P. In the cases I have been discussing, the collection inclosed in the serous membrane is a true pus, which is thick, or a purulent serosity, that has deposited its concrete particles on the membrane; and the question is how to obtain the absorption of thick, tenacious, and sometimes solid matter. But there are other cases where the collection is nothing else than the natural vapour of this membrane, accumulated and converted into serosity. These cases are of two kinds; the first are still dependent on the inflammation; for that of the viscera enveloped in the serous membrane suffices, when it is chronic, to derange the natural equilibrium between the exhalation and re-absorption of the serosity. There is

more poured forth than is taken up; this is sufficient to produce serous dropsies; it is thus the belly is filled with water after inflammation of the intestines, spleen, uterus, liver, and so on. You see then, that it is not less important to stop these inflammations than those belonging to the membranes. There is, however, the advantage here, that the collection, being more aquæous, is removed more easily by absorption; but the disorganization of the subjacent viscera continues, and reproduces the effusion incessantly. The second species of these dropsies, purely serous, is quite independent of inflammation. I will point out their causes, after having made known to you the second seat of dropsies; for these causes are common to all.

S. You derange all the notions that I had preconceived on dropsy; but I feel that you correct them justly. So have the kindness to go on.

P. The cellular texture or membrane is the seat I am going to speak of: this texture is formed of small layers or laminæ, disposed in a manner to form an infinity of cells, which communicate with each other, and are moistened by a vapour analogous to that of serous membranes. In this vast bandage, which unites all the parts of our body, to facilitate its movements, and which abounds particularly beneath the skin, and in the intervals between the numerous muscles forming the substance of the limbs, there are many cells destined to contain the fat, which proceeds also from the blood; they are said to be isolated one from another, as likewise

from the cells that are purely serous. But this question has nothing to do with the object of our inquiry ; remember only, that the serous vapour that moistens the cells of the cellular membrane can, like that of the membrane of which we have spoken, be accumulated, under the influence of a variety of causes, amongst which inflammation is conspicuous.

Indeed, when inflammation is developed in the cellular membrane, which bears the name of *phlegmon*, the blood is effused in the cells it inhabits, and the serosity proceeds to those that surround it, at a distance more or less great ; and if this inflammation becomes chronic, the anasarca or cellular dropsy is very extensive. Those of this nature are frequently met with, and then they occupy a whole extremity, after certain phlegmons, which have been mistaken or ill-treated ; for instance, after childbirth, and in certain persons exposed to cold in a moment when they were heated to a high degree, and whose perspiration has been suppressed. These extremities become monstrous in their size, and materially interrupt progression.

In other cases, the serous infiltration of the extremities, and even that of the whole body, are the consequence of chronic inflammation of the viscera, and especially of those which have produced collections in the serous membranes. It is thus that general dropsy succeeds in time to those of the large cavities, caused by the inflammations of serous membranes, and by those of the viscera which they envelop.

Then, inflammation does not exist in the general cellular membrane; it is confined to the visceral cavities; and it is by the sympathetic influence of these, that the equilibrium between the exhalation and absorption is deranged in all the remaining parts of the body.

S. This influence appears to me a matter purely hypothetical. Might we not for these cases return to the humoral theories, and say that the dropsical humour, for instance that of the abdomen, diffuses itself from one part to the other? I think I should better understand this than your sympathetic irritations.

P. Because you have not made physiological pathology your special study. Recollect in the first place, that the serous membranes are without an opening, and that when the serosity is re-absorbed, it returns to the blood, from whence it is thrown off by the urine or perspiration; it cannot thus insinuate itself and be diffused in the general cellular membrane. It is by the vital action then that we must account for the dropsies of this membrane, that are consecutive to those of serous membranes. In truth, it is demonstrated, that every time a kind of lesion takes place in one texture of the animal economy, it is repeated, after a certain time, in many others. Have you not seen in the gout, the inflammation of one articulation reproduced in many others, and from thence propagated to the viscera? Does not inflammation proceed from the skin towards the mucous membranes of the digestive organs, and

from these towards the skin, in measles, small-pox, erysipelas, and tetters? Does not ophthalmia pass from one eye to another? Angina or quinsey from the right tonsil to the left? Does not gastritis inflame the throat, and still oftener the brain? and this last, when inflamed, does it not act upon the stomach and liver? The examples of this nature may be enumerated *ad infinitum:* they are common to all diseases of irritation. Inflammatory dropsies are of this number; it is not then to be wondered at that the transfer or sympathetic communication of one texture with another is met with. These conveyances or propagations of irritation have caused the belief in the existence of a virus of moveable humours, which rove about the body, and are thrown, according to vulgar language, from one part on another. But I have already told you that humours are not living beings; that they have no principle of action, no will; that they are not, of course, susceptible of any caprice; that they do not remove, or rather are not removed, but to those parts where irritation calls them. Observe, besides, that these humours are engendered by irritated or inflamed textures; that they do not preserve, when returned into the blood, the qualities they had in the parts which produced them; that, as soon as they are reabsorbed, they are decomposed and ejected; and then you will comprehend, how chimerical it is to fancy them travelling across the membranes, floating in the midst of blood which is enclosed in crowds of narrow tubes, without experiencing any alteration; as a

flight of insects traverse the air, or a shoal of fish the water, to rush unanimously to some favourite spot. Relinquish the whole of these false theories, the offspring of the imagination in the ages of barbarism and ignorance, and see only in the transfer or extension of any affection whatever, the transfer or extension of morbid irritation.

As to the word *sympathy*, it ought not to startle you; it expresses, in physiology, one of the most evident facts, the relation that exists between the different parts of an individual, and the association which unites them, in order to concur to one object, the preservation of life. An organ receives the stimulus of external agents; it communicates it to others; acts necessary to the maintenance of all organized bodies, as alimentation, the removal of superfluous matter, &c., are executed by virtue of this correspondence; the nerves are the agents, as I have told you elsewhere. This is the fact considered in a healthy state; it continues, of course, in the state of disease; but then, though destined to re-establish health, which it often effects in spite of the ignorance of physicians, it is sometimes seen to cause the propagation of the evil. It is not here the question to investigate how this perversion may take place; it is enough to know that its existence is verified, so that we have now a solid base in the art of healing.

There can be nothing else in the disorders which manifest activity; and without the theory of irritation, I defy any physician, however learned he

may be, to understand himself, and to direct the treatment of the most simple affection. The physicians have sufficiently proved it by the manner, as ridiculous as fatal, in which they treated our infirmities up to the time of the physiological doctrine; by their foolish patience in waiting for a crisis, which does not often take place but with detriment to the patient; by their various specifics applied to the variations of the same affection; by the different names they bestowed on the same medicaments, according as they directed them against such or such a disorder; and finally, by the ravage they permitted epidemics to make, when it was so easy to have stopped their progress.

S. I own, that all these concatenations had not presented themselves to my mind, when I made you this objection. But you have a system so regular and coherent, it gives you such a facility to assimilate the different cases with each other, and to compel them to lend each other a reciprocal support, that I do not feel myself capable of refuting you by well founded objections: I leave this task to physicians, whose doctrines you have upset. Continue, therefore, your subject, and inform me respecting dropsies independent of irritation, if perchance such exist; for you have confused my brain to such a degree, that I can scarcely see anything but this Proteus, in the prodigious diversity of physical evils that overwhelm us.

P. You must not, sir, carry things to extremes; you would justify me in retorting on you the reproach

of *exclusion* *, which you have so often addressed to me; however, you are to be excused, having yet heard me speak of nothing else but of irritation. But have patience; there are disorders with which irritation has nothing to do; and you shall soon be made acquainted with them. In the mean time I proceed to select, among dropsies, those which remain for our examination, those which possess still something of this phenomenon, and those which present a different character.

Dropsy is sometimes produced without inflammation, by the sudden suppression of the perspiratory exhalation, which is a serous matter. In these cases, the vessels which serve as a depôt to the mass of blood, and which cannot be dilated sufficiently to contain the super-abundant serosity, suddenly exhale it in the texture of which we have spoken. There is a prepared sort of serous shower in the membranes of this name, and in the areolary tissues; the body swells to an enormous size. It is most evident, that these dropsies, although quite independent of inflammation, are very active, and only owe their existence to the conveyance of irritation from the skin to the membranes and textures where the accumulation is going on. You see that the irritation must be distinguished according to the textures or vessels over which it maintains control.

* A blind bigotry to a certain theory, to the exclusion of all others. — *Translator's Note.*

We must place in the same rank the dropsy of those who have drank, in a very short space of time, a much larger quantity of liquid than perspiration, urine, and pulmonary exhalation, are able to throw off. In this last circumstance, the irritation is divided between the organs which perform these depurations, and the textures whose office it is to exhale the serosity destined to facilitate the motions of the viscera.

These two species of dropsy have this in common, and it is very remarkable, that the surface of the body, although much tumefied, is extremely hard and resisting, without having lost any thing of its colour and natural freshness.

Next to these, we place that which supervenes after the first paroxysms of an intermittent fever, before the subject is exhausted, or his viscera engorged; and those which succeed to shivering produced by fear, the sudden repulsion of the itch, tetters, erysipelas, &c.; because in all these cases we see nothing more than a cessation of cutaneous action, and the development of a supplementary *anormal* action in the serous and areolary tissues; that is to say, a transfer of irritation.

Such is the picture of active dropsies; the passive depend either upon an obstacle offered to the circulation of blood, or the exhaustion of animal powers.

The obstacle in question may be partial or general. You know that the blood flows through a circle without interruption, continually from the heart into the various parts of the body, and from these last back again to the heart. This constitutes the

circulation of the blood, of which we have before spoken. The vessels which receive it from the heart are the arteries ; they are distinguished by pulsations, which correspond to the contraction of this organ. Those which return the blood to the heart, after it has bathed all the parts of the body, in flowing through extremely multiplied canals, are called *veins;* they have no perceivable pulsation. Now, when these last vessels are bound, compressed, or retracted, in some way or other, the blood is stopped in its progress: it remains stagnant in all the branches and the ramification of the veins, which are found above the strangulation. The veins too glutted can no longer admit the serous exhalation which has been diffused in the membrane of this name and the cellular texture ; and nevertheless, the arterial extremities unceasingly continue to furnish them with this vapour, which, by this means, accumulates, thickens, is converted into serosity, and dropsy is the consequence. It is *partial*, if the strangulation is only carried over a venous trunk : in cases, for instance, where a tumour or even a ligature compresses, in the bending of the groin, the femoral vein, which returns the blood from an inferior extremity ; it is *general*, if the strangulation or impediment acts on the trunk of the *vena cava*, which pours into the heart the blood it has received from all parts of the body, or if the impediment lies in the heart itself.

You may now form an opinion, how diseases of the heart produce general dropsies. In fact, when

this viscus is compressed by an effusion formed in its pericardium, it can no longer admit all the blood presented to it by the *vena cava,* nor that which comes from the chest by the pulmonary veins. These veins then remain full, and the ramifications they have in every part of the body refuse to admit the serosity exhaled on the serous surfaces and in the cellular textures. It is the same when the heart is too much dilated, because, being at the time softened and weakened, which constitutes aneurism, it is incapable of contracting sufficiently to get rid of the blood that fills it. That which is carried to it by the *vena cava*, and the veins of the lungs, finding no issue, remains stagnant in all the branches that open on these veins, and leaves them no space to admit the serosity of serous membranes and the cellular textures. The same phenomenon takes place, and for the same reasons, when the cavities of the heart are filled by some foreign productions, or when they become hardened and lose their contractility.

It is true, this dropsy does not happen so soon as the obstacle begins to form in the heart; the tone of this muscle, the most robust of all in the human body, suffices for a long time, though with much difficulty, to maintain the circulation; for a considerable time also, the cellular and serous textures preserve contractive facility enough to refuse this distension, and force the veins to receive the fluids they contain, and the veins energy enough to pump the serosity, and compel the heart to receive it. It even happens sometimes, that the forced stay of the

blood in the lungs, and in the brain, produces suffocation, apoplexy, and death, before dropsy is formed; or hæmorrhages re-establish for some time the equilibrium; but at length the time arrives when all these textures lose their spring, or rather their tonic action, and then dropsy becomes general, and often fatal.

You must now know, that this cause of dropsy is one of the most frequent: it is by this, that the majority of asthmatics, and nearly all those who have a long time suffered at the heart, terminate their career. These are doubtless dropsies perfectly passive; yet, if you recollect that disorders of the heart are owing to irritation, you will acknowledge that these dropsies have still some relation to this great phenomenon.

As to dropsies produced by pregnancy, and by voluminous tumours in the abdomen, as schirrus of the ovaria, or by effusions which depress the mass of the lungs, they may depend in part on the compression acting on the large veins of the abdomen, chest, or heart, and in part on the irritation more or less inflammatory of the viscera.

At length we arrive at dropsies which acknowledge no other cause than general weakness, and the loss of tone of the coats of these veins. They are met with after large and prolonged losses of blood; however, this would not be the only cause, if the sanguineous effusions were not furnished by an inflamed organ: it is equally observed after long and continued famine, among the unfortunate who have

most suffered from hunger; and in convalescents, who have been much debilitated by sickness. In all these cases, dropsy begins in the lower extremities, on account of the veins of those parts, obliged to force up the blood against its own weight, having greater efforts to make than all the others, and being the first exhausted.

Again, dropsies are seen to arise after the abuse of mercury and other mineral substances; but, as these medicines almost always occasion inflammation in the mucous membrane of the digestive canal, they cannot be exclusively attributed to debility.

Certain poisons likewise produce dropsy; but the same observation is applicable to them.

Finally, dropsies, which manifest themselves in persons who have long suffered from intermittents, are not always the effect of the exhaustion of the powers; since often, as I have remarked, these kinds of maladies have chronic phlegmasiæ, and engorgements, which impede the circulation of the blood. The physician physiologist must therefore distinguish which of the two causes predominates, in order to establish thoroughly the curative indications.

It is to dropsies caused by debility, especially by hæmorrhages, and unsubstantial food, that we must refer the explication of the vulgar, who imagine the blood is turned to water, because in reality this fluid is impoverished in these disorders. The red part, which we call the *cruor*, and that plastic lymph which forms the coagulated part in bleeding, have

prodigiously diminished in proportion; so that the blood is reduced to serosity; but you will sufficiently judge how faulty this theory is, when applied to dropsies resulting from inflammation, or sudden derangement of cutaneous perspiration.

S. Yes, sir, I conceive that; and I declare, I was much in need of all these documents, to afford me a just idea of dropsies. I only saw in them a disease, invariably the same, which I could not account for; and as in most cases it is followed by death, it seemed to me, that its real character was as mysterious to medical men as to myself. I attributed the cures to a lucky chance, which put in the way, without our own knowledge, the specifics proper for dropsies. I had so much the more reason to think so, because I saw your brethren try by turns, with the greatest confusion, all the remedies by which, as it was believed, success had been obtained, and because not unfrequently a patient, abandoned by them, was cured by means of a receipt given to him by an old woman. At present I conceive how, when the malady is consecutive to disorganization of the viscera, it must be incurable, whilst it may be overcome in cases where the principal organs have preserved their soundness. You see I profit by your instruction, and I begin already to speak your language.

P. It gives me sincere pleasure, sir. You have indeed seized the principal idea of the subject in question; and all I have left to say to you concerning the treatment of dropsies can be no more than their development.

It is a very curious fact, and the publicity of which is very important, that physicians who practise according to the true spirit of the physiological doctrine, seldom or never see the persons they have treated from the beginning fall into dropsies: they scarcely meet with it, except among those patients who have neglected to take care of themselves, or whose management has been confided to ontologists; but, on the other hand, these last always count a great number of dropsical cases among their patients. This difference is so prodigious, that it at once attracts the attention of physicians, strangers to Paris, who come there to compare the practice of one with another, in the hospitals. I have seen them often astonished, while walking through a range of two hundred patients, treated by bleeding and diet, not to find among them a single dropsical subject; whereas they saw a variety of them in the wards of those physicians, who, sparing of blood, are profuse with food and tonic medicines. Their surprise is one of the strongest proofs that can be given of the vacuum in the old doctrines, and of the irresolution of physicians before the appearance of ours. The predominating idea amongst all sects was, that disorders, removed by copious bleedings, would be followed by a very long convalescence, or that the patient would fall into a dropsy difficult to cure: however, the contrary is now demonstrated: all sick persons that have been early relieved from their inflammation, by timely bleedings applied near the source of irritation, having been healed rapidly, and without dropsy.

If some of those who have lost the most blood should experience a mild attack, it is removed by very few remedies, by the use alone of a regimen appropriate to the digestive faculty of convalescents, and by the use of some *diuretic* beverage, that is to say, useful to promote urine; and all this for the very plausible reason, that the viscera are healthy, and can support with advantage the stimulus of food, good wine, and cordial remedies. We find the same facility in curing dropsies occasioned by famine, by a residence in low and humid situations, &c. It is only those affected by chronic inflammation, with disorganization, in whom copious bleedings bring forward dangerous dropsies; but he who commits similar errors, does not deserve to move against physicians physiologists. This is the treatment of dropsies arising from debility; let us now proceed to those which depend on irritation.

Whenever dropsy is dependent on an actual source of inflammation, which has not disorganized the viscera; we succeed in removing it by combating the principal disease, by bleeding, and the antiphlogistic regimen; the serosity is absorbed on all the surfaces which contain it, and the equilibrium is re-established. I have many times seen our professor, and the physicians who walk in his path, perform these sorts of cures in persons who had an accumulation of water in the *peritoneum*, by placing leeches on the abdomen, to extinguish the source of phlegmasia seated in the intestines, liver, or in the womb, whenever patients, although dropsical, have

sufficient strength left to support an evacuation of blood: it is absolutely necessary that it be accompanied by a strict diet. As to the beverages, they should only be refreshing up to the time when the inflammation is removed; afterwards it is enough to render them mildly diuretic.

The same treatment is applicable, in the same circumstances, to persons affected with dropsy of the chest, in consequence of phlegmasia of the pleura, which we call *chronic pleuritis;* but when these disorders are arrived at the stage of disorganization, which can only be ascertained by a skilful physician, bleedings are no longer seasonable. We are compelled to confine ourselves to palliative medicine, which consists in a refreshing diet, and the use of some diuretic beverages, proper to facilitate the flow of urine. Sometimes, however, the progress of an incipient disorganization is arrested, when it has already produced dropsy, by seconding these means with cauteries, moxas, setons, and other exciting revulsives, placed in the nearest situation possible to the part affected. This treatment is above all suitable to pleurisies, inflammations of the liver, and to chronic peritonitis complicated with watery or purulent accumulations.

When dropsy depends *solely* on the derangement of perspiration, or of a momentary excess of aqueous beverage, patients can support strong stimulants without injury. In these cases, violent purgatives, such as jalap, scammony, gamboge, and powerful diuretics, such as squills, white wine, alcoholic

drinks, and many very acrid plants, have perfected cures that were attempted in vain by less energetic medicines. Nevertheless, we must still fear the abuse of irritating remedies, which may communicate to these patients a gastritis or an enteritis which they had not before.

Some physicians, too daring, remove, by powerful diuretics, the dropsies of those affected by visceral disorganization; but they gain nothing by it; these patients soon fall into exhaustion, attended by slow fever.

When dropsy is the effect of an impediment in the circulation, situated at the heart, it is cured by bleeding, and some mildly stimulant beverages, if that viscus is not yet disorganized; but if it be so already, there remains only the precarious resource of palliative medicine.

S. You say nothing about tapping of the abdomen, performed in dropsies of that cavity: I do not wonder at it, for the majority of those who undergo this operation ultimately fall its victims. Whenever I have heard the fatal puncture prescribed, I have considered the decision as a sentence of death; and indeed I am not the only one of this opinion.

P. It is an error, sir, be assured of it. What has brought paracentesis into such discredit, is its having been often necessarily prescribed to patients who have a disorganization of the abdominal viscera, produced by inflammations misunderstood, neglected, or improperly treated; such are very frequently those of drunkards by profession; but when it is

performed in dropsies independent of such disorders, it is always followed by the greatest success, if the treatment be in other respects judiciously adapted to the character of the disease. In general, perforation has nothing serious in itself; the wound heals without difficulty, the patient is relieved by the evacuation of the water; his urine, suspended up to the time, resumes forthwith its course; diuretics act with much more efficacy than before; the absorbent vessels, and the radicles of the veins, carry off what remains of serosity in the peritoneum; and if the viscera are not too much disorganized, the cure is not long delayed. I will say more: even in cases where disorganization has taken place, patients are always advantageously relieved by the operation of tapping; it allows them to breathe, preserves them from suffocation, gives them hope, and always prolongs their existence. There are even cases, where disorganizations are still curable; and it is by puncture being repeated as often as it is required, that we procure to the patients the means of awaiting their cure; for without this operation they would inevitably perish by suffocation when the collection is very considerable. This operation has sometimes been repeated with success five or six times in a year, during the space of several years. Divest yourself then of an unfair prejudice; only attribute death to alterations of the viscera when they are too far advanced, and believe that it is always advantageous

to join puncture to a suitable treatment, from the beginning of dropsies of the abdomen.

S. I am quite satisfied with what I have just heard; at every moment you free me from some new prejudice. Have you nothing more to say, to make me perfectly comprehend the whole of your interesting doctrine?

P. I had engaged to converse with you on debility. This chapter is very important, for people affect to reproach us with seeing nought but irritation. So, if you can brave a fresh dose of *ennui*, I will with pleasure undertake to unravel for you this great question, should I even expose myself to the danger of sinking under my subject.

S. You are very far from having caused me *ennui*, although in the beginning I stood in need of all my attention, not to lose sight of the series of your propositions. Now, I feel myself more than ever in a fit state to listen to you, and to follow your arguments, without experiencing a tiresome contention of the mind. You will give me pleasure by touching on this new subject. I even declare to you, that I feel a secret satisfaction in thinking that I can in some degree puzzle my physician, when he comes, according to custom, declaiming against this new *pretended physiological doctrine.*

P. To-morrow then, since you desire it.

DIALOGUE XX.

DISORDERS DEPENDING ON WEAKNESS.

SAVANT. Now for debility, doctor. I want you to give me a true idea of it, in order to be enabled to support your cause in the presence of your detractors; for they do not cease to repeat, that you give too much latitude to your notions concerning inflammatory disorders.

PHYSICIAN. Of all the phenomena of diseases, that which principally attracts the attention of the sick is debility. As soon as a man begins to suffer, he complains of the diminution of his strength; pain affects him because it weakens him. He calls for an end of his sufferings in order to recover his accustomed vigour; he pines incessantly after it, and in the progress of the disorder he only remarks that of his weakness. This sentiment is innate, and yields only to the power of reflection. If he cannot digest, he complains of a weakness at the stomach; if the motion of his limbs be attended by pain, or if in executing it he experiences a suffering that calls for repose, he attributes it to the general decline of his strength; if his respiration be difficult, he will tell you he has not power to breathe; if he be

constipated, he accuses the inaction, that is, the weakness of his exonerative faculty, because he has remarked that all his endeavours are vain : he thinks and expresses himself in the like manner on the derangement of all the other functions. It is easy to be convinced of this truth in observing the disorders of the common people, who are not prepossessed in favour of any medical system. In general, the nearer man is to a state of nature, the more he is disposed to refer all his complaints to weakness : he must therefore direct his search everywhere for corroborants; and as he is accustomed, in a state of health, to recover his strength by food and fermented liquors, he has forthwith recourse, in his sickness, to the same means.

After tonics he wishes most for evacuations ; but it is always in the secret hope, that after having obtained them, he shall find himself not so feeble, and that he may revivify his powers by nourishment. This idea is inspired by the observations he made on himself when in a state of health. The want of natural and daily evacuations weakens him, and restrains the exercise of his strength, which he recovers as soon as he is exonerated ; can any thing more be required to induce him to wish for evacuations when he is sick ?

It is then with the intention to strengthen themselves, that sick people desire tonics and evacuants ; and in cases where, upon the authority of less ancient theories, they desire resolvents and depuratives, specifics for certain disorders, it is that they hope

to find in them tonics, either for all or certain organs which appear to them debilitated.

But I have demonstrated to you, that all these modifications are stimulants, and that, since the disorders to which they are opposed depend on irritation, they can only prolong or augment the debility: you will easily conclude from this, that whenever the weakness depends on irritation, it does not constitute a primitive essential disorder, and that of course there is no special remedy for it. Tonics applicable to weaknesses from irritation are then evidently the remedies for the irritation; that is to say, bleedings, emollients, diet, and the means of causing revulsion.

It is otherwise when the irritation is completely appeased in the viscera. Weakness is then the only evil remaining to be destroyed; for convalescence is nothing more than the weakness which succeeds to every disorder. It is then that the tonics for a state of health, so injurious to weakness from irritation, are to be employed. But, as the organs which have been lately irritated are susceptible of becoming so again, it is of much importance to proceed to the restoration with prudence; that is to say, to begin with the mildest tonics, and to ascend gradually to those which are more powerful.

S. All this seems to me very reasonable, and I am much astonished that people have been so long without understanding it.

P. It has not been understood yet; for, as soon

as a patient has lost blood by venesection, or by any other evacuation, the greatest haste is made to give tonics, under the pretext that it was urgent to repair the loss, and to furnish him with the means to support his disorder. You see that this disorder was realized, personified, and considered as an enemy fighting against the constitution; in order to vanquish which, it stood in need of assistance. Bleeding then was employed to weaken that *being*, *the disorder*; afterwards, rich soups were administered to fortify the *patient*. Now what happened? The pretended restorative, in augmenting the irritation, fortified the disease, and weakened its victim. So that one hand destroyed the good done by the other, and the final result was the death of the patient.

They acted in the same manner in convalescences. If the subject was not overloaded with food, at least they gave him generous wine, bark, and bitters; if there arose an irritation of the stomach, it was called deranged stomach with fever, for which emetics and purges were prescribed; tonics were again recurred to; and if the convalescent did not experience a violent relapse, he languished during a considerable time, and sometimes lost his health for his whole life. Pray look around you in society, and you will see a multitude of these victims to the ignorance of the laws of physiology. But instead of accusing the unskilfulness of their physicians, these unfortunate persons express to them so much the more gratitude, as they have had the more dif-

ficulty in restoring their health ; because they attribute the slowness of their convalescence entirely to the importance of the disorder.

S. You are perfectly right: I am acquainted with many persons who have been in this predicament. I was so myself after my intermittent fever; but I was very far from suspecting the cause that you have just pointed out to me.

P. After the debility which succeeds to disorders of irritation, we come to that which is primitive. You have seen an example in certain dropsies. Those who suffer from famine, or who are nourished by unsubstantial aliments, necessarily fall into a state of considerable debility. Yet, such are the laws of the economy of animal life, that the stomach, when for a long time deprived of its natural stimulus, food, contracts at length an irritation, which mounts up to an inflammatory state. We must then distinguish among the unfortunate sufferers from hunger those who have a gastritis, and I can certify to you that these last are incomparably the most numerous.

Cold is without doubt one of the greatest debilitating powers to which we are exposed, should it act by the air or by the intermedium of water. It slackens the circulation, and causes a numbness and weakness of the extremities ; but in acting thus it forces the blood upon the viscera, and there provokes engorgements attended by an irritation, which very often reaches the stage of phlegmasia. So when the question is to remedy the weakness of a person who has been submitted to the action of

cold, the first care of the physician ought to be to ascertain whether he must not at first combat a visceral inflammation.

Violent and continued exercises, excess in the pleasures of love, the gloomy passions, and fear, ought doubtless to be placed in the rank of causes the most debilitating; however, there are few cases where the weakness which determines these causes is not attended by a visceral irritation, and often by a true inflammation. The precautions indicated for the preceding cases are therefore equally applicable to these last. This is a truth that was not appreciated before the epoch of our doctrine. All these patients were vigorously stimulated, they languished, and all these ills were placed to the account of an essential debility, of so malignant a nature that there existed no tonic sufficiently powerful to vanquish it.

Those who have suffered copious losses of blood, often repeated, are, as we have seen, subject to dropsy from debility; but, without suffering this disorder, they may be reduced to such a degree as to stand in great need of tonics. Nevertheless, we must establish a distinction among them; those who have lost their blood by a wound, by bleedings carried too far, or women who have suffered considerable hemorrhages after labour, may have in the digestive channels no irritation that contradicts the indication of tonics. It is not so with persons who are weakened by unprovoked hemorrhages, and which are repeated spontaneously, without any injury proceeding from external causes;

these last have, as we have seen, nearly always an irritation, or even a visceral phlegmasia, which determines the loss of blood: such are pulmonics who spit blood; persons affected with gastritis or chronic enteritis, who vomit it, or evacuate it by stools; women affected by schirrus, cancer, or polypus of the uterus, who are debilitated by continual losses of blood; young persons teazed by excessive and copious bleedings at the nose; those suffering from piles, whom a too abundant flux maintains in a state of languor, &c. All these patients have no essential debility; and if it be important to support their powers by broth and light food, it is still the more so to combat, by means appropriate to inflammation, the irritation which is seated in certain viscera, and keeps up their hemorrhages; we have often had reason to congratulate ourselves on having ventured to practise some local bleedings on the surface of the skin, the nearest to the point of irritation. Here revulsion, effected by means of blisters and rubefacients, procures a mitigation that was in vain expected from other remedies.

Of all debilities, the most evident, the most essential, and the most direct, is that produced by the want of respirable air. Oxygen is the most necessary aliment of life; as soon as the atmospherical air is deprived of it, those who inhale it experience anguish, and make vain efforts to breathe; the air which they inspire does not furnish food to the lungs; the blood ceases to become red in traversing these organs, which grow weak; their heat is lost,

the chest ceases to move; the palpitations of the heart are no longer felt; all signs of life cease to be perceptible; and if this state continue, death soon becomes inevitable. The extreme debility resulting from the privation of oxygen bears the name of *asphyxia:* it is truly essential; it constitutes the principal, the only malady of the patient, and all efforts must be directed against it; tonics of every description are thus clearly indicated. The physician at first should introduce into the lungs air loaded with oxygen, that is to say, air of a healthy place, well ventilated: for oxygen is the particular and specific stimulant of these sorts of debilities. There are, to effectuate an artificial respiration, very ingenious instruments; but common bellows adapted to a tube, which is directed into the larynx, may supply the place of these. If these last are not to be had, any other means are employed that are at hand; but as the general irritability is very much diminished, we ought to strive to reanimate it, by stimulating the subject in the most sensible parts of the body. For this purpose, different methods are made use of in order to irritate the pit of the stomach, the palms of the hands, the soles of the feet, the throat, and stimulant clysters are introduced into the intestines. This method succeeds very often in restoring to the person asphyxed sufficient irritability to make him sensible to the influence of oxygenated air, which his lungs appropriate, and absorb, and communicate to the blood that vivifying property it had lost. Artificial heat, applied with prudence to the exterior of

the body, is a means of stimulation by which much good is obtained.

There are still certain gases which throw those who inhale them into the debility of asphyxia. Some are so because they are deprived of oxygen; such is the pure carbonic acid, azote, pure hydrogen, and then the treatment is absolutely the same; others, because in depriving the lungs of this *pabulum vitæ* (oxygen), they scatter over these and the nervous system in general an irritation of an extreme rapidity; they are called deleterious gases; such are the carbonated, sulphurated, phosphorated hydrogen gases, the hydrochloric acid, the vapour of sulphur in combustion, ammonia (or volatile alkali) set free, the smoke arising from the combustion of certain vegetable poisons, as tobacco, and in general all smoke, the vapour of burning charcoal, that of privies, &c. In these cases the debility is not the only morbid state that the physician is called to remedy; for, when he has had the good fortune to re-establish the function of respiration, there remains a phlegmasia in the bronchiæ, the lungs, digestive organs, and an irritation of the brain and nerves, which require the same means as those with which we have been before occupied.

Asphyxia caused by strangulation requires in the first place oxygen, and stimulants suitable to awaken the general irritability; but as soon as the debility is remedied, the irritation of the viscera where the blood has been compelled to sojourn (the

brain and the lungs), and that of parts which have been broken or contused, ought to claim the attention of professional men. Weakness is not then pure and simple in this kind of asphyxia.

That which depends on immersion in water, shows at first debility in the highest degree, since the action of cold is combined with the privation of oxygen; but as soon as the lungs have recovered their action, the irritative engorgement of different viscera presents, as after strangulation, an antiphlogistic indication, which ought always to be accomplished as early as possible.

We see again real asphyxiæ after convulsions excessively violent, especially when they have affected the muscles of the chest, destined to execute the necessary movements of respiration. This case happens sometimes in violent fits of hysterics; they present, in short, all the signs of death. It is very clear that debility is here become the principal affection, and that it should be treated as depending on a privation of oxygen. The physician should know, that the hysteric spasm may, by accumulating blood in the brain, produce an apoplexy, which assumes the character of the debility concerning which we speak: but then the action of the heart and the respiration are not entirely interrupted; there remain traces of it, which, with the complexion of the patients, are sufficient to indicate evacuations of blood. It may also happen, that an hysteric person, recovered from asphyxia, may retain an irritative

engorgement of the brain and other viscera, which substitutes the indication of antiphlogistics to those of stimulants and tonics.

Certain gases arising from the decomposition of animal substances, such as are those exhaled from tombs imprudently opened, slaughter-grounds, and all infected sewers, may act with such rapidity on those who respire these vapours, as to throw them at once into a state of asphyxia. Stimulants offer themselves here as the first means; but if we succeed, by employing them, to call back the sufferers to life, we have often to combat a gastro-intestinal phlegmasia, or a cephalic one, of the nature of those which are classed with typhus.

It is the same with asphyxia produced by acid, hydrogenic or prussic. An apothecary, after having smelt a moment at an empty phial, which had contained the acid, fainted away. He became pale and cold, and nearly lost his pulse and respiration. A physician employed abundance of stimulants; coffee, and essential oil of turpentine, were administered in large doses; the patient was brought back to himself; but he recovered from his debility with a chronic gastritis, of which he did not get rid but by a long course of the antiphlogistic regimen. So very difficult is it to find pure and simple debilities, disorders in which a skilful physiologist distinguishes only the stimulant indication.

Finally, I will speak to you of syncope. This malady, carried to its highest degree, is really equivalent to a true asphyxia. It depends on a defect

in the action of the heart, which ceases to furnish to the brain the quantity of blood necessary for the exercise of its functions. The causes which may suspend the action of the heart are very numerous. At times, it is the suffering of some organ attacked by irritation of the stomach; for instance, in gastritis; a violent pain, wherever it is seated, may produce the same effect. In these cases, syncope, though consecutive, does not less require the employment of stimulants, until the circulation is re-established; with this proviso, to combat afterwards the irritation, which becomes again the principal affection.

Moral affections, noxious smells, or the sight of some spectacle of horror, procure also the immobility of the heart: it is the brain then that has received the first impression; notwithstanding this, the stimulant indication is the first that we are obliged to have recourse to. When syncope is produced by the loss of blood, it requires the same means: in a word, whatever may be the cause that provokes it, the physician ought never to suffer it to subsist long, when it rises to a degree to deserve the name of asphyxia; I mean to say, the disappearing of the pulse and respiration; for, during its continuance, death may take place. But, when syncope has been caused by a copious bleeding in the violent inflammation of the viscera, it is extremely favourable to the extermination of the source of phlegmasia: it ought then to be allowed to subsist during a certain time, provided the circulation and respiration are not en-

tirely at a stand. It becomes then the most efficacious remedy for the inflammatory irritation; and if it be too soon dissipated by stimulants, irritation will re-appear with a new energy.

S. I shall confess, for the future, that it is without reason you are accused of not understanding diseases of debility: on the contrary, it seems to me that you know perfectly well how to appreciate them, since you distinguish with such precision the cases where it furnishes the principal indications from those which offer but secondary ones, and because you possess the art of making them serve as a remedy against affections essentially irritative. The developments you have entered into prove to me, that you have a complete system of medicine; that you have fore seen all objections, and resolved every difficulty which people are in the habit of opposing, at least in as much as I am able to judge, by my conversations with several of your colleagues. I will not fatigue you with questions on the diseases, few in number, as it appears to me, on which we have not discoursed; I perceive they cannot fail to class with those which you have taken the trouble to explain to me. Permit me, however, to express to you my surprise, that a doctrine so clear, so satisfactory, and the only one which, as you asserted, constitutes medicine a real science, should not suit the taste of the learned physicians that honour our country. Can it be, that your chief is still reduced to propagate it among his students alone; and that the societies and faculties of medicine have not taken it into sufficient

consideration to name commissioners appointed to discuss it with its founder, to follow the experiments of those who practise it, and to make public the result of their inquiries? Notwithstanding all the talent you have shown in our conversations, I much doubt, I declare, of your being able to resolve these difficulties so easily as you have resolved those of the practice of medicine properly so called.

P. Without flattering myself, sir, that I shall be able to satisfy you completely on these various points, I will frankly tell you in our next conversation what I think of them. Time will show whether I have thoroughly resolved this difficulty.

DIALOGUE XXI.

ORIGIN AND PROGRESS OF THE PHYSIOLOGICAL PRACTICE. OBSTACLES IT HAS MET WITH. ECLECTISM. EMPIRICISM. SURGERY. VETERINARY MEDICINE. METHOD FOR STUDYING THE PHYSIOLOGICAL DOCTRINE.

SAVANT. I like your punctuality, doctor. You are doubtless ready to furnish me with arguments to answer my physician, who pretends, amongst other things, that your doctrine only owes its success to the silence of the learned bodies, about which I expressed to you my surprise yesterday.

PHYSICIAN. Sir, I think quite the reverse. Never has this system made greater progress, than since the professors of the schools of medicine have thought proper to cavil with the candidates who offered the substance of it in their inaugural disputations. The facility with which objections were refuted gave to these candidates an advantage, which induced their fellow-students, witnesses of their triumph, to study the new doctrine. The professors, beaten by arguments, grew angry, gave themselves up to invectives, and thereby betrayed all their

weakness. Could more be required to give an importance to the physiological practice of medicine?

S. I believe you are correct; but I return to my first question: Why have the learned bodies neglected to examine the principles you profess?

P. For a very plain reason: because in the beginning they did not understand them; their sycophants (for all men in office are surrounded by them) represented these to them as absurd, ridiculous, and unworthy to occupy their attention. When, later, the victorious responses of candidates had made these gentry feel the importance of our doctrine, their self-esteem, already wounded, would not permit them to change their tone, and try the means of verifying the new principles; they chose to affect a disdain which they are far from feeling, and declared hostilities against our professor and his followers.

S. I do not wonder at it. Your leader ought, I think, to have begun with submitting his doctrine to the judgment of the faculties and learned societies; he would have provoked discussion, which would have enlightened the old physicians; they would have been anxious to have rendered him justice; and, after having come forward in this manner, they would no longer have been able to retreat; and your doctrine would have been propagated, under their auspices, without any obstacle.

P. Allow me, sir, to be of a different opinion. I go upon facts, and you shall be made acquainted with them.

Our leader only began to teach his doctrine in the year 1814; but from the year 1808, he had laid the foundation of it in a work entitled, *Histoire de Phlegmasies Chroniques.* A learned professor of the faculty, the late Dr. Hallé, whose memory will ever be dear to philanthropists, fixed upon this work the attention of his colleagues, the members of the jury chosen in the *Institute,* in 1811, as judges of the competitors for the decennial prizes: but this appeal was insufficient. The author was at that time with the army, and he could not advocate his own cause; the professors of medicine prejudiced the minds of their pupils against the perusal of this work, and it remained in the bookseller's shop until the return of the author, which happened in 1814. Surprised to see that a work, recommended by the first learned body in the kingdom, was not become classic, he took the opportunity of the professor's chair which he had then obtained, at the military hospital of instruction of *Val de Grace,* to devote himself to the particular inculcation of medicine. His lectures, being founded on principles of eternal truth, soon inspired much interest, and attracted the most respectable students of the faculty. From the year 1816, M. Broussais was in possession of a system which might have been submitted to the learned bodies; but, how could he venture to offer it to them, when he saw the professors of the faculty, whose opinion was law in the academy, teaze his pupils in their examinations, and turn them into ridi-

cule? He had then no other means left but to plead his cause before the public, and this he did, in the same year, by the publication of a second work, entitled, *Examen de la doctrine médicale généralement adoptée, et des systêmes modernes de nosologie.* This work made a great noise : it exasperated all the members of the faculty, but it was well received by the public; his pupils became more numerous; and the practice of the author was closely observed in the hospital of Val-de-Grace, in spite of the secret manœuvres of his enemies, who succeeded, as often as three times, to have his clinical class *shut.* The results of different methods were compared; and the physiological doctrine spread with an astonishing rapidity, in spite of the opposition of the corps of professors.

S. He ought, I think, to attend their meetings, and read there his memoirs in development of his principal propositions.

P. Do you think so, sir? How! go to state to men, who have devoted thirty or forty years of their lives to the study of the ancient works, who place all their fame in knowing how to interpret them, and apply their principles to the treatment of disorders; how! say I, make known to such personages, that those classic writers were wrong; that the notions they formed of diseases were fallacious; that the practice resulting from it was dangerous; that medicine, on an average, did more harm than good to the human species; and that, in order to be able to make some pro-

gress, they must forget all they knew, and begin again, according to the precept of Bacon, to reconstruct the edifice of science?

These propositions would have appeared like so many blasphemies. To substantiate them by proofs, it would have been necessary to unfold slowly the whole plan of the new doctrine; that is to say, deliver a complete course of medicine, and justify the fundamental precepts by the practice. But, how is it possible to transform a learned society into a well-disposed auditory, with sufficient patience to hear the orator to a conclusion; that is to say, to follow him nearly during the course of a scholastic year? How induce such men to visit an hospital, and force them to observe silently the results of a treatment, which, contrary to all their ideas, would in the first place have shocked them? You will admit the impossibility of all this. He must of course address himself to the rising generation; to youths, who have not the pretension to know more than their master; who, not having yet practised medicine, are not puffed up by pretended successes, and have, in short, no other interest than that of their instruction. This the founder of the physiological doctrine has done. In the interim, till he could compose a complete treatise on medicine, he has been obliged to publish his fundamental propositions, as he did in the second edition of his *Examen*, which appeared in 1821; and to form, by his theoretical and practical instructions, men who could understand them, explain them in particular conferences in consultation,

to the old physicians who were shocked at them, and show them their application at the bedsides of patients. All this has been done. The old doctors have loudly exclaimed; but the young, who went forth every year from the physiological school, and who spread among society, have silenced them gradually, by explaining to them our corollaries, and above all by curing disorders which they had abandoned as incurable. Each of the old physicians had a son, a nephew, or a *protége*, among the students of the new doctrine; and he got from him documents which he would have blushed to go in search of on the benches of the auditory; after being angry, he grew calm; he tried the new method, and the success he obtained effected insensibly his conversion. This is, sir, a faithful picture of what has occurred within the last ten years in society. The professors of our schools, who do not deign to read our doctrine, learn it from students whom they interrogate in the public examinations; and other physicians get at it by the communications they incessantly have with our young doctors. As the most convincing proof, I have only to add, that all the physicians, without any exception, have modified their practice and changed their language.

S. I agree to all that: physicians as private individuals will yield, but they will resist as learned bodies; and this opposition will impede for a long time the progress of your doctrine.

P. Learned corporations, sir, are composed of private individuals; and when conviction is grown gene-

ral, it can no longer be disguised. Let the faculties of medicine do all they can, followers of the physiological doctrine will introduce themselves among them every day; and the time is not far distant when they will have the majority, and the new doctrine will be publicly taught.

S. Be not so deluded, my dear doctor. The profession, though entirely convinced, will hold out, from an *esprit de corps*, and your triumph will be much more distant than you imagine.

P. I allow that several professors affect to pursue the old *routine;* but they will preach in the desert; they will grow tired, and suffer their antagonists to speak.

S. An eloquent and obstinate man will be able to support for a long time the ancient system.

P. Eloquence, sir, is only a vain sounding of words when it is not founded on truth: the crucible of trial is there, and the false precepts of an illusory science will not withstand it. Is there a Cicero, or a Demosthenes, capable of proving to three thousand auditors, who daily visit the hospitals of Paris, that it is more advantageous to let an acute disease proceed than to arrest it the first day; to lose nine patients in ten, rather than save the whole, by sparing their long sufferings? Has not every one tried the experiment on himself or his friends? No, sir, no; the vain subtilties of an orator will never stop the progress of the physiological doctrine.

S. Your adversaries will always find some fanatic admirers.

P. No doubt, sir; the professors, enemies to our principles, will have their instruments, their flatterers, young men, who, fearing to disoblige them, will stay away from the physiological school, and will in their dissertations support the spirit of the old systems: but when re-entered into the commerce of society, these young men, being at liberty, will change their conduct; it will be the same with them as with me; all their pride, all their presumption, will not prevent their avowing to themselves, that their practice is not so good as that of our co-brethren. If they have not the courage to return to the benches, they will instruct themselves, or be instructed in secret, and finish by conforming to the only plan of treatment reasonable or admissible; if they are against it, their patients or friends will force them; and the epoch is not distant when the erroneous precepts which the professors of the old doctrine may still continue to deliver from the chair, will be countenanced by no example. The professors themselves will act contrary to the principles they have publicly taught; and then, what confidence, do you think, they can inspire?

S. But is not all that merely speculative?

P. No, sir; nearly the whole is realized. The old professors, who cleave to the ancient system, have already scarcely an auditory at their theoretical lessons. It is true, their visits to the hospitals are still attended, because there are facts to be observed, and precepts to verify; but there are drawn from their practice conclusions opposite to those which they wish to be

drawn. The pupils who surround them point out to them their errors, and respectfully invite them to try the new plan. If the patient die, they oblige the professor to show the traces of the disease which he had mistaken while the patient was living. If he refuse, they protest in silence, among themselves, against his obstinacy; they compare his results with those of the physiologist practitioner, and become instructed by reverses as much as by successes.

S. You inform me now, doctor, of strange circumstances; we, the public, were very far from suspecting the whole that passes in your medical schools and clinical wards*. Our respect for learned societies is so great, that we cannot imagine they have motives so little honourable. We are told of a new doctrine, and we ask, whether it has obtained the assent of those reputed men of learning, whom we look upon as the sole competent judges in such matters. We are answered in the negative; and we, content with this answer, continue to place in the first rank men, whose age, titles, and situation, the confidence of the great, and finally the public voice, point out to us as such. Pray can we do otherwise?

* Clinic means instruction in medicine at the bedside of the patients in hospitals. The professor characterizes the disorder, establishes the indication whereon his treatment is founded, and the cure or death enable his auditory to appreciate his practice. This is the best course of medicine imaginable; it is the crucible that has purified the physiological doctrine, which owes to it the immense progress it has made the last ten years; it will one day owe to it its total triumph.

P. No, sir; but every thing changes on the theatre of the world; while you throw incense on the old reputations, there rise up new ones; and when they are arrived at a certain *éclat*, your attention will naturally be directed towards them.

S. Oh! this overthrow is not yet so near as you appear to believe: as long as the accredited physicians live, they will enjoy the confidence of men in power, and their influence will for a long time impede the rise of your new doctrine.

P. Do not deceive yourself, sir; the old physicians in vogue are surrounded by pupils of the new doctrine; these youthful rivals observe them, and let not pass unheeded one of their actions, one of their movements: if the doctor of the old school commits a fault, the doctor of the modern school points him out to every one; if he determines to adopt the new practice, his Argus does not fail to observe, that he owes his success to the physiological doctrine, which lately he hardly knew, and which he has often blamed and even ridiculed. The witnesses of this scene cannot deny it; they habituate themselves by degrees to transfer to the young physicians the unbounded confidence which they had placed in the old doctor; and certainly nothing is more natural; for since, according to the silent avowal of the last, the new doctrine deserves the preference, it is better to seek it from physicians who profess the doctrine, who have studied and meditated it, than to apply for it to those, who have confined themselves to seizing by stealth a few frag-

ments, which they amalgamize with the ancient routine of practice.

S. Ha! here you call to memory an observation of my physician, which I had almost forgotten. He agrees now that there is something useful in your doctrine; but he maintains, that it is intermixed with many errors; and that a prudent physician ought to use his discretion in rejecting the bad and selecting the good, in order to make up a doctrine perfect in all points, by adding it to that of the old system. I think he calls this eclectic.

Yes, sir; eclectism consists in not implicitly submitting to any doctrine, and in selecting from the whole of them what appears conformable to reason and experience; but this is one of the most deplorable resources, because it furnishes a complete proof of the imperfection of medical doctrines; in a word, it is the anarchy of science. What can one think of a science in which it is confessed, that the most prudent part is to believe nothing; of a science, that bears on itself the stamp of truth, against which we must be always on our guard, in order to avoid error or offence? The fathers of eclectism venture to recommend to their disciples each to form a particular doctrine, by studying the innumerable systems which by turns have deformed medicine; they thus suppose in them, at the outset of their career, a more solid judgment than that of all the founders of systems of medicine. To say to these youths: "Frame a doctrine at the expense of all others, without adhering to any of them," is

the same as to say: "Medicine is not a science; it is a mass of precepts more or less good; of practice more or less bad; accommodate yourself to it in the best way you can, and strive to become one day what we have been unable to become ourselves, that is to say, real physicians." Such was in truth medicine before the appearance of the physiological doctrine. It was in vain to strive to make a science of it; all such efforts were without success. For this reason eclectism had obtained such vogue, and all systems were proscribed from their birth: the contempt they inspired was carried to such a height, that the greatest reproach that could be addressed to a son of Esculapius, was to give him the title of systematic. Eclectism was therefore only a state of expectation; and as such it ought to disappear as soon as a system comes to light, which is founded on exact observation of facts, and worthy, in short, to constitute a real science.

S. It is true, that the word system was discredited among physicians; all the learned wondered at it; for this word implies nothing but a regular arrangement of facts, destined to facilitate the study by relieving the memory; and indeed it requires no great effort of sense to conceive, that order is preferable to a chaos; but to conclude, since the term *system* irritates your brethren, I strongly advise physicians-physiologists never again to ring this word in their ears.

P. Therefore we prefer using the term *doctrine;* it is in reality preferable, since a good doctrine sup-

poses a good system; but it would not be difficult to prove to you, that physicians who flatter themselves the most, that they reject all systems, cannot dispense with following one, whatever it may be; I do not even except those who call themselves empirics.

S. I acknowledge, doctor, that my surprise was extreme, when I read in some of your authors, that a number of celebrated physicians boasted of their being empirics. You know this word is always taken in a bad sense, in common life, as it is applied only to quacks and jugglers: although I believe I understand the sense attached to it amongst you, I shall not be sorry if you will have the kindness to give me an explanation of it.

P. The empirics, sir, are physicians who have a strong resemblance to eclectics. They reject all systems, all explications drawn from the physiological state of organs; they will only see symptoms, and the remedy proper for these, and they flatter themselves that they only act upon experience. Suppose, for instance, a peripneumony, which is vulgarly known by the name of fluxion of the chest. The empirics pretend to be ignorant that the lung is inflamed; they say: "You have a pain in the side, fever, you spit blood, and you breathe with difficulty: well then; we care little from whence this disorder proceeds; it is enough to know, that bleeding is the remedy for these symptoms."

S. These are strange physicians! Thus when I am unwell from hunger, they would tell me to eat,

without agreeing that my disorder proceeded from want of food?

P. To be consistent, they ought to argue thus; and if your face is covered with a violent erysipelas, they would be obliged, in order not to depart from their principles, to apply a decoction of mallows and leeches, assuring you, however, that they know not whether your skin is inflamed or not.

S. And if I break my leg, will they tell me, on replacing the bones, that they know not whether they have been broken and deranged?

P. No, sir; they will acknowledge you have a fracture, just as they will declare the existence of your erysipelatous inflammation.

S. And why then will they not confess that the lung is inflamed in peripneumony; and that it is to calm it, by relieving it of the blood that oppresses it, that they prescribe the operation of bleeding?

P. They will acknowledge it, sir, no doubt; and when I represented them to you as disposed to deny it, it was for the purpose of making you better acquainted with their ridiculous pretensions. Empirics always give the explanation of the maladies they understand, as well internally as externally; but as there exists an immense variety which they do not comprehend (which is not to be wondered at, because before the physiological doctrine a multitude of disorders were misunderstood, such as fevers, the majority of nervous affections, &c.), they have contrived to disguise their ignorance by professing, that

no malady is perfectly known, that all may be treated without the trouble of determining their nature, and that there is always temerity and even danger in the research.

S. Your empirics, I perceive, resemble the fox in the fable that had lost his tail.

P. Precisely so, sir; what they do not know, they maintain that every body should be ignorant of. Empiricism must have been the first medicine of mankind; for man sought the means to relieve himself a long time before he understood the nature of maladies; but gradually as anatomy, physiology, and the observation of external influences have made progress, empiricism has necessarily lost its credit; and all induces one to hope, that it will end by disappearing with eclectism.

S. All that I have heard induces me to think it would be better placed among the quacks and old gossips than among physicians.

P. I am of the same opinion; yet there sometimes appear disorders, the proximate cause or the physiological modification of which is not thoroughly understood; meanwhile, we are obliged to act by feeling our way, or according to analogy, that refers the case in question to some others. Many persons call this conduct empiricism; we can allow them this expression; but it is always true, that this species of empiricism does not constitute a system, and cannot have a sect; it is composed of certain extraordinary cases, which are not obscure to all physicians, and the number of which diminishes every

day, thanks to the progress of the physiological doctrine.

S. If I am not mistaken, eclectics and empirics must be much dreaded by their patients; for my own part, I declare, they do not inspire me with any confidence. I believe idleness or ignorance must be their distinctive characteristics.

P. You are not wrong, sir. Eclectics of the present day are persons, who, to conciliate authorities entirely opposite, destroy with one hand the good they do with another. For instance, as soon as they have bled, with the intention to combat inflammation, they give stimulants to remedy the weakness they have produced, without knowing that this should be the remedy for phlegmasia; or else they purge, in order to evacuate the *peccant humour*, which they imagine forms a dangerous complication. They think thus to take the essence of physiologists, Brunonians, and humourists; but this practice tends to nothing but the prolongation of the evil, and often prepares the loss of the patient. The practice of empirics is exactly the same in its application and results, although starting from principles somewhat different: in fact, they only know how to attack symptoms, and what they give to destroy one is almost always contradictory to what they would oppose to another; they exasperate the evil, and when the patient withstands the acute stage, he seldom fails to become the prey of a chronic affection. But if these practitioners are formidable, as you have said, with just reason, to their patients, they

are not so to physicians physiologists; as their reverses serve to unfold our successes, and to accelerate the progress of our doctrine.

S. You have, I know, numerous partizans in the capital; but do you count as many in the provinces, and in foreign countries?

P. Many, sir, I assure you. Several of our large towns have acknowledged the benefits of our doctrine. It manifestly predominates at Lyons. Bordeaux begins to see it flourish within its precincts. In spite of the furious and coarse declamation of an ignoramus, nearly all the physicians of Versailles have already acknowledged its utility. Toulouse indeed is scarcely acquainted with it; but the university of Montpellier possesses a professor, who has already given a taste of it to the majority of the students there; that of Strasburgh is compelled to receive it from some of her own, and the military hospital of instruction of that town has caused it to shine with the most brilliant *éclat*. It triumphs at Nancy, and within the walls of Metz, especially by the successes of the professors of the military hospital of instruction, who have adopted it. Brest, Toulon, and all our sea ports have given, in France, the first example of this salutary adoption; they profess no other principles than ours. Marseilles begins also to understand it. The towns of Nantes and Rennes have a long time resisted; but henceforth we count there a certain number of our most distinguished fellow-students, whose successes have already fixed the attention of the public; a multitude of small

towns have yielded long since to the evidence which characterizes our precious doctrine, and in the country they begin to experience its benefits. The Netherlands have distinguished themselves, in quite a particular manner, by the active and firm attention they have bestowed, from the first beginning, on the system that we profess, and by the application made there to particular cases; there are none of our propositions which are not immediately meditated and commented on by the most renowned professors of that kingdom, especially in that part where the French language is spoken. A young professor has transplanted this doctrine into the university of Göttingen, and it may be hoped that it will shortly be naturalized there; the other schools of Germany and England have as yet only a confused idea of it; Spain has enjoyed it for several years, by the exertions of Doctor Hurtado, who has rendered it triumphant even in the capital of Madrid. Italy is on the point of changing its Brunonism for the physiological medicine: some of the truths which constitute the basis of our practice are appreciated by the celebrated Tomassini of Bologna; and we have in the city of Milan a physician, who undertakes to explain our principles to his countrymen. There can be no doubt of the success attending it in a country, that, like Spain, must feel in a lively manner the want of a doctrine which must deliver it from the ravages of the exciting and counter-stimulant practice of medicine. Several distinguished pupils of our professors have enlightened some parts of the

United States, and the physicians formed in our naval schools have circulated our doctrine, which is at present theirs, in most part of the West India islands, Senegal, at Pondicherry, Calcutta, and in nearly all our settlements of the East Indies. Everywhere this happy acquisition is received with joy; everywhere the young apostles to our principles have the advantage over the partizans of obsolete routine. Our army in Spain has lately furnished the most convincing proof of it; our doctrine has equally triumphed in the hospitals filled with fevers and dysenteries, the consequence of fatigue and heat, and in the lazarettos, where our condisciples have contended with the yellow fever; the proofs of these successes have been recorded in the "*Annales de la Medicine Physiologique.*" The commanders of corps, and generals, have been seen to render an authentic testimony of the good effect of the antiphlogistic practice of medicine; and when, by chance, a Brunonian physician has been charged to replace one of ours in an hospital, the increase in the mortality has been so immediate and so evident, that all those who observed it were struck by it.

Judge by that, sir, whether your fears for the obstacles opposed to us are well grounded. Believe that the most powerful is at Paris itself, on account of the resistance of the learned bodies, and rivalities of every kind; and yet you will agree that we have made there astonishing progress. But what signifies the opposition of celebrated names; they will not prevent truth from being known and universally spread;

and those who reject it with so much obstinacy will find themselves very soon alone, amidst a new generation of more enlightened physicians, more steadfast, and especially more ardent than they.

S. If all you tell me be true, as I am inclined to believe, your triumph will be much less distant than at first I had reason to think. But pray explain to me, why adversaries so enraged as yours have not combined with their other means of opposition, that of refutation, or at least that of a formal attack, by the channel of publication; for I hear of nothing of this kind?

P. Let us establish here an important distinction: the professors of the school of medicine, the members of the academy of sciences, those of the academy of medicine, have published no works against the physiological doctrine; they feared to entangle themselves; we have only seen appear at different intervals, books directed against the author of this doctrine, nearly all composed by young men, who intended to get into favour with the faculty of medicine. But by an extraordinary fatality all these writings were weak, and very much below mediocrity; the authors did not understand the question, and they gave way to injurious personalities, or circulated gross falsehoods; therefore they only inspired contempt. All these books were forgotten in the course of a few days, and remained on the shelves of the booksellers. The attacks directed against our doctrine have always brought misfortune upon those who attempted them.

S. Did not your leader refute these works?

P. No, sir; he left that task to his pupils, and they have accomplished it with honour. He has confined himself to resolving in his lectures the objections sufficiently specious to impose on the less instructed, and he has pursued the development of his doctrine in the different works he has published.

S. Are his works well received by the public?

P. So well, that editions multiply continually; and in order to obtain the favour of the public, authors of new works have been obliged to comment on or to copy them. For this reason, the publishers of the great *Dictionnaire des Sciences Medicales*, begun before our doctrine, have found themselves under the necessity of adopting in some manner the heads of it, in order to avoid a complete overthrow. But, as the beginning of this medical encyclopedia did not correspond with the end, it was thought proper to work the whole over again. At present two new *Dictionnaires de Medicine* appear, which are composed more or less in the spirit of the physiological doctrine, and the subscribers to the old one have been obliged to subscribe to one of the two, in order to be acquainted with the actual state of science. But, independent of that, we see every day appear works on the different branches of medicine, composed by students of the new doctrine, who, ambitious to obtain a name, have found no other means than to pillage the lectures of their professor, and to anticipate him in the publication of his didactic treatise. The works which carry the stamp of this kind of

theft, to which however some authors have had the advantage of adding developments of their own, are nearly those only which enjoy at present any credit; for no attention is paid to those offering nothing but old theories. It is generally felt that all branches of medical science require to be considered in a new point of view, and every one hastens to concur in the reform : that of medicine is already far advanced. It is not so with surgery ; the classical works of this part of the healing art are already obsolete. We only possess as yet some observations, which make us feel the importance of a totally new construction. But it is impossible we can have to wait long, if we judge by the impulse that animates the rising medical generation.

S. How, sir, does your doctrine also embrace surgery? I thought this science had reached the highest degree of perfection. Everywhere is celebrated the perspicuity with which it shines, and it is repeated that it is satisfactory in all respects ; that it has over medicine the advantage of offering nothing vague and hypothetical ; and it is pretended that the French surgeons surpass all others. What reform would you then introduce in the operative proceedings founded on anatomy, and which have already been carried to a degree of geometrical accuracy ? Have you perchance changed the structure of the human body? Does your leader also meddle with operations ?

P. No, sir, he does not ; the practice of medicine sufficiently absorbs all his time, and we do not

harbour the ridiculous pretension to reform the proceedings of surgical operations. But they only constitute a small part of this branch of the healing art. The surgeon is not always employed in cutting and dissecting the human body: if all his science was reduced to this, he would only be a mere mechanic, undeserving to figure in the ranks of learned corporations. He must be a physician also: he ought so to be, in the first place, to verify the necessity of operations: it is not always the question of reducing a dislocation, a fracture, of extracting a ball, or amputating a limb shattered by a cannon ball; often, very often, there is manifested on the exterior of the body changes that proceed from an internal cause. Nearly always it is inflammation that produces these; and when they do not depend on it, the inflammation is developed consecutively. Now, in the old practice of surgery, the knife and cautery were seen applied every day on these external lesions, which are removed now by the aid of medicine. I will say more: there are a great many wounds, produced by violent causes, to which were formerly applied operations, rendered useless at present by means of physiological medicine. Is it nothing then to save the unfortunate sufferers from the pain and deformity inseparable from operations? Now, humanity will be beholden to the physiological doctrine for such an advantage. It is therefore necessary for the surgeon to understand it, so as not to operate without urgency; and this should prove to you, that surgery is far from being exact and satisfactory in every

circumstance. Above all, after the performance of operations, the surgeon stands in need of being a physiological physician, and acquires a certainty that his art is far distant from perfection. The inflammation developed in wounds that his instruments have made, is similar to all those which constitute the object of the study of medicine: if he irritates when he should calm, he must expect a very difficult cure, considerable deformities, and often to see his patient become a cripple. Now, the physiological doctrine offers him, to prevent all these evils, proceedings which were unknown, or wrongly appreciated by the old authors.

But this is by no means all. The inflammation formed in the wound, and resulting from the operation, cannot rise to a certain degree of intensity, without being repeated in the principal viscera; thus inflammation will be formed in the head, chest, stomach, and abdomen. These inflammations differ in no respect from those which are produced by other causes, and over which the physiological doctrine, as you know, has thrown a new light. At the time when physicians treated these maladies in an improper way, surgeons, who could only borrow from them their means, must necessarily combat them by an improper method. Hence those putrid malignant fevers, convulsions, and transfers of purulent matter, that carried off unexpectedly a number of patients, after operations where the dexterity of the surgeon had conspicuously shone; hence those epidemics, those pretended contagious fevers, that

depopulated the hospitals of armies, and scarcely left alive a small number of wounded, after great battles. It was reserved for physiological medicine to remedy the whole of these calamities. By teaching surgeons not to leave in wounds greater degree of inflammation than is necessary for the formation of the cicatrix, it prevents the viscera from participating in that irritation; and when by misfortune these organs have contracted it, it teaches them to arrest it, from its first beginning, to prevent a fatal catastrophe, and thus to suppress the seeds of infection in large assemblages of wounded. It is in this point especially that surgery should improve, which supposes that it had not attained the degree of certainty that some were pleased to attribute to it.

S. Ha! how glad am I to have questioned you on surgery. You have told me things that I had no idea of. Indeed, what signifies it to me, that my surgeon has had his address admired in cutting off my leg, if I die from the consequences of his dexterity? I wish most ardently that your doctrine may soon extend its happy influence over surgery; for in spite of all the hygienic precautions I can take for the preservation of my health, I cannot be sure that my skull may not be fractured by a tile detached from a roof, or my leg broken by a carriage which a drunkard of a coachman may overturn on the road.

P. The revolution you wish for, sir, is already effected in the surgical instruction of Paris. The professors, who at present attract the throng of students, owe this success to the adoption made of

our doctrine; some towns of a second order have already followed this example; but the classical works still leave much to be desired by the friends of science and humanity. Let us hope that this gap will be shortly filled. We form the same wish for veterinary medicine.

S. How! veterinary medicine also? You have a knowledge then of the diseases of animals?

P. The organization of animals is similar to our own; their maladies must therefore be similar to those we experience. The question is particularly of beasts which live familiarly with us, which participate our temperament, which we have subjected to our caprices, which we overburthen with toil, and oblige to adopt many of our customs. In all times, we have applied to them our remedies when they fall sick. Veterinary medicine having constantly followed the traces of human medicine, it must indispensably now undergo the same revolution which has taken place in rectifying the last. Already, some skilful veterinarians and distinguished economists have set it going, and nothing can hinder it from producing all its effects. We shall see if the learned men, whom this practice counts in the rank of our academicians, will show themselves as obstinate as our ancient physicians. If they resist, so much the worse for them; their pupils, who are become ours, will share all the honour of this useful revolution.

S. Since the physiological doctrine is grown so necessary to the welfare of society, how comes it to

pass, that its author has not yet published a complete treatise of medicine? Why defer it so long, and leave to his pupils the leisure to deck themselves with his trophies? What is he doing? Does it suit him to give to his private practice the time he should devote to the good of the public?

P. The founder of the doctrine is incapable of sacrificing the good of the public to his own personal interest. He continues to profess, and every year his lectures become much more methodical and more complete. Perhaps he has not yet judged his treatise worthy of the public, since he has not yet published it; we think, however, that he will not much longer defer it, for he presents this year his doctrine in a shape which seems to offer more interest than before. We believe he has laid down the frame which he will speedily fill up. Yet the public have nothing to reproach him with. In his second *Examen*, published in 1821, he has passed in review all systems of medicine, comparing each of these with the doctrine he professes; and all the substance of this doctrine has been enclosed in four hundred and sixty-eight propositions, the knowledge of which is facilitated by the remainder of the work. Besides, he publishes a monthly journal, which has circulated two years and upwards, in which he describes successively to his readers all known diseases, extracted from his practice, and that of his numerous correspondents, adding to each particular disease dissertations tending to combine them with the principles of the physiological doctrine.

He applies himself to compare the treatment of the different sects in medicine, in order to enable the public to appreciate with more facility that which has been followed in the observations under discussion. He delivers thus a public clinical lecture, which serves for physicians living far distant, instead of that which daily takes place in his hospital. He attends to all the objections made to him, and replies without the least animosity or personality. He announces the new works, and gives his opinion on their merits, in order to make known to his readers to what degree they seem worthy of their confidence. To this journal, which bears the title of *Annales de la Médecine Physiologique*, and which in reality contains the history of the progress of this science, of the obstacles and assistance that may influence its advancement, he has added a *Traité de Physiologie appliquée à la Médecine*, a work intended to throw light upon the causes and mechanism of disorders. This *Traité* is near its conclusion.

In this way, M. Broussais has judged right to prepare himself for the composition of the complete treatise of medicine that his brethren expect from him, and the publication of which he only delays, in order to deserve more and more the favour with which all his works have been received. What he dreads the most is, not to justify the idea that his grateful pupils have formed of him.

S. What plan must be followed in reading the works of M. Broussais? I shall feel obliged to you to point it out to me, that I may be able to show

my physician, who will, I believe, make up his mind to devote his attention to them. He is a worthy man, whom I esteem, a man of sense, whose talents I desire to perfect, as much for his interest as that of his friends, amongst whom I hope ever to count myself and my whole family.

P. Then advise him to begin with the *Examen des Doctrines Medicales*, in two volumes, 8vo.; to take afterwards the *Histoire des Phlegmasies Chroniques*, three volumes, 8vo., third edition; and to finish by the *Annales de la Médecine Physiologique*, which began to appear in 1822. But it is important to add separately the *Traité de Physiologie appliquée à la Médecine*. If he takes the pains to study all these works, I have no doubt but he will there find precepts sufficient to become a physician physiologist. If all our adversaries had followed this path, they would not have lost their time in making us their futile objections, and which are long since refuted in the most victorious manner.

If your physician would take advantage of all the best that has been written in the sense of our doctrine, I advise him to join to the reading of the books I have cited, the *Lettres* of Professor Lallemand, of Montpellier, *Sur les Maladies de l'Encéphale*, a work abounding in new facts, and exempt from all reproach; the *Traité des Irritations Intermittentes* of M. Mongellaz, and the *Réfutation des Mémoires* of Doctor Chomel, *Sur les Fièvres Essentielles*, by Doctor Roche. He may also consult M. Bégin's *Traité de Physiologie*, which is on the same matter

as the works of M. Broussais, and in a great measure extracted from the lessons of this physïcian; as likewise the *Application de la Doctrine Physiologique à la Chirurgie*, by the same M. Bégin. I do not recommend to him the *Physiologie* of Professor Adelon, as I doubt not but he is already acquainted with this excellent work. If he finds in it assertions contrary to our doctrine, he may consider them, after having meditated the works I have just now pointed out; but I can affirm, that he will meet in it with a much greater number that agree perfectly with our principles. This work has just made its appearance. There are still a great many good dissertations that may be recommended to him, but I confine myself to books written by physicians whose experience has entitled them to compose extensive works.

S. I am much obliged to you, my dear doctor, for the pains you have taken in giving me an idea of the new doctrine. I promise you I will do my best to spread it among the public, as much as my faculties and circumstances may permit. Now I release you to the solicitations of your family, friends, and fellow-citizens; and I declare I shall hear with the most lively satisfaction of the success which awaits you in your practice.

THE END.

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